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HEMERY IN DARRACQ WINS ARDENNES CIRCUIT.

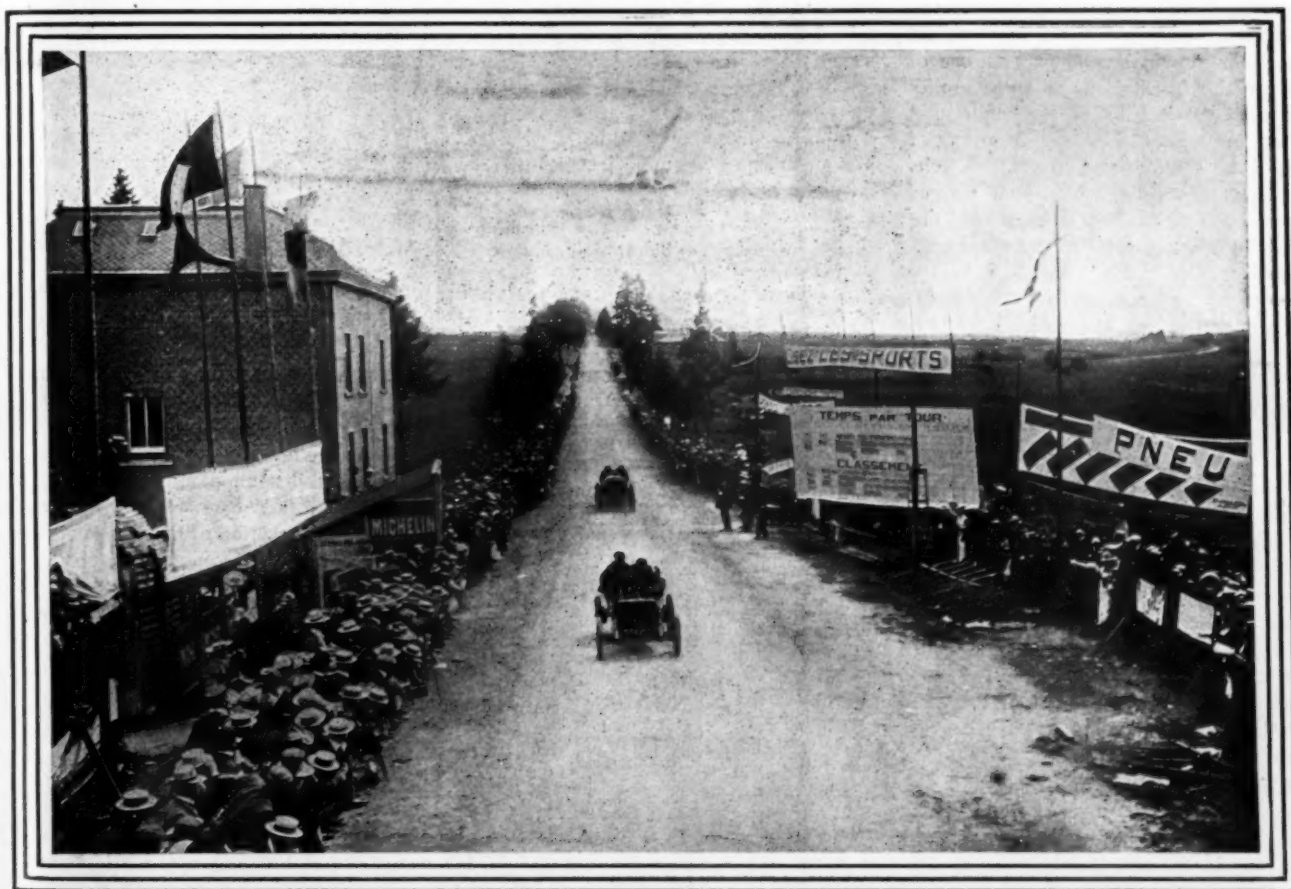
From Our Own Correspondent.

BASTOGNE, BELGIUM, Aug. 7.—Hémery won the Ardennes Circuit today in the heavy car class in a Darracq in 5 hours 58 minutes 32 seconds for the 600 kilometers (372.82 miles), or at an average speed of 61.82 miles an

in a De Dietrich, in 7:18:28, and Montjoie eighth, in a Darracq, in 7:52:11 2-5.

The Darracq team not only wins the race, but also captures the regularity trophy with the positions of first, fourth and eighth, for while Panhard cars took second, third and

hill toward the grand stand, followed closely by Le Blon, just finishing his fourth round. Hemery, who had started first, had gained nearly a full circuit before Le Blon was sent away, last of the twelve contestants. Owing to the breaking down of the



HEMERY IN DARRACQ WINNING THE ARDENNES CIRCUIT, FOLLOWED BY LE BLON IN PANHARD ON HIS FOURTH ROUND.

hour. Tart was second on a Panhard in 6:13:37 4-5; Le Blon, third, also in a Panhard, in 6:22:56; Wagner, fourth, in a Darracq, in 6:24:10 1-5; Heath, fifth, in a Panhard, in 6:24:20 2-5; De Caters, sixth, in a Mercedes, in 6:40:27; Duray, seventh.

fifth positions, Le Blon, who ran third, does not figure in the competition for this trophy, the official Panhard team consisting of Heath, Tart and Teste.

The finish of the race was a most impressive sight as Hemery rushed down the

Italian car Itala, driven by Fabry, in the second round, and the withdrawal of Jenatzy in the third round, the international element had been lost, and this moderated the expressions of enthusiasm on the arrival of the winner.

The second man to finish was Tart, fifteen minutes behind the winner. Le Blon, Wagner and Heath struggled very hard for third position. Baron De Caters ran a plucky race as one of the Mercedes team. For some time he had been suffering from rheumatic trouble, causing much loss of sleep, and when he started in the race he was unable to wear his boots. Teste, of the Panhard team, who was leading well on the fourth round, was unable to finish the race, owing to an accident to his steering gear. All the French cars were fitted with Michelin tires, while the two Mercedes were equipped with Continentals.

The race for heavy cars was run Monday, following races for motorcycles and light cars or voituresses run Saturday. It was the fourth annual Ardennes meeting, instituted in 1902 by Baron de Crawhez, over the Ardennes course, which has come to be known as the "track circuit" because of the splendid surface condition of the road, its width, its total absence from difficult turns and controls or neutralizations. As a result of these conditions, it furnishes the fastest times in long-distance racing. Its natural qualities render such elaborate preparations as were made for the Gordon Bennett on the Auvergne circuit quite unnecessary, yet nothing was neglected to aid nature, as is shown by the expenditure of \$8,000 for the tarring of the eighty miles of the circuit, 800 tons of tar being used for the purpose, and by a subvention of \$100,000 from the Minister of Public Works to be expended on improving the surface of the road. The Ardennes course was not guarded by military, as was the Auvergne, but barriers had been erected wherever necessary, plenty of gendarmes were stationed around the circuit, and large placards warned the public that anyone crossing the road ran the risk of being killed. A small flag indicated each kilometer of the course, and yellow flags were used to indicate danger and to signal for stops.

The weighing-in of the heavy racers entered for Monday's race took place at Bastogne on Saturday afternoon. Most of the competitors and interested persons had been present at the motorcycle races in the morning, and as soon as these were over there was a joyous procession of cars back to Bastogne. Operations were rapidly gone through, all the cars being found to be within the limits, and there was nothing to be done officially until Monday morning.

Only fourteen cars were weighed in—the English Wolseley, the Clément-Bayard and the Italian Fiat, whose participation was doubtful until the last moment, failing to compete. The reduced numbers were made up of four Panhard-Levassor cars, piloted by Heath, Teste, Le Blon and Tart; one C. G. V., steered by Behr; three Darracq (one of them being in the light car class), driven by Hémerly, Wagner and Montjoie; three De Dietrich, by Gabriel, Duray and Rougier; two Mercedes, by Jenatzy and De

Caters, and one of the new Italian cars, Itala, piloted by Fabry.

Everybody was afoot early Monday morning, for the first car was to be sent away

Positions and Times by Rounds.

Following are the positions and times for each of the five rounds of the circuit:

FIRST ROUND.

Position.	Driver.	Car.	Time.
1	Wagner	Darracq	1:04:22
2	Tart	Panhard	1:05:40
3	Hemery	Darracq	1:05:44
4	Rougier	De Dietrich	1:05:58
5	Jenatzy	Mercedes	1:06:21
6	De Caters	Mercedes	1:08:38
7	Teste	Panhard	1:08:57
8	Fabry	Itala	1:09:45
9	Heath	Panhard	1:11:47
10	Le Blon	Panhard	1:16:30
11	Montjoie	Darracq	1:22:07

Wagner averaged 68.63 miles an hour for the circuit.

SECOND ROUND.

Position.	Driver.	Total time.	Time for round.
1	Rougier	2:10:19	1:04:21
2	Jenatzy	2:14:44	1:08:23
3	Hemery	2:16:13	1:10:29
4	Tart	2:17:29	1:11:49
5	Wagner	2:18:51	1:14:29
6	Teste	2:26:29	1:17:32
7	Le Blon	2:32:16	1:15:46
8	Duray	2:34:16	1:26:37
9	Heath	2:39:57	1:28:10
10	De Caters	2:40:35	1:31:57
11	Montjoie	2:48:22	1:26:15

Rougier averaged 68.65 miles an hour, making the fastest round in the entire race.

THIRD ROUND.

Position.	Driver.	Total time.	Time for round.
1	Hemery	3:23:32	1:07:19
2	Teste	3:38:27	1:11:58
3	Tart	3:39:48	1:22:19
4	Wagner	3:41:47	1:22:56
5	Le Blon	3:51:04	1:18:48
6	Heath	3:51:50	1:11:53
7	De Caters	4:01:05	1:20:30
8	Montjoie	4:33:06	1:44:44
9	Duray	4:40:54	2:06:38
10	Jenatzy	5:04:21	2:49:37

Hemery averaged 65.63 miles an hour.

FOURTH ROUND.

Position.	Driver.	Total time.	Time for round.
1	Hemery	4:44:03	1:20:31
2	Teste	4:51:31	1:13:04
3	Tart	4:54:03	1:14:15
4	Le Blon	5:10:33	1:19:29
5	Wagner	5:12:11	1:30:24
6	Heath	5:14:22	1:21:32
7	De Caters	5:22:26	1:22:21
8	Duray	6:01:30	1:20:36
9	Montjoie	6:19:11	1:46:05

Teste's average speed was 60.52 miles an hour.

FIFTH ROUND.

Position.	Driver.	Total time.	Time for round.
1	Hemery	5:58:32	1:14:29 1-5
2	Tart	6:13:37 4-5	1:19:34 4-5
3	Le Blon	6:22:56	1:12:23
4	Wagner	6:24:10 1-5	1:11:59 1-5
5	Heath	6:24:20 2-5	1:09:58 2-5
6	De Caters	6:40:27	1:18:00 1-5
7	Duray	7:18:28	1:16:56
8	Montjoie	7:52:11 2-5	1:33:00 2-5

Heath, who made the fastest time in the last round, averaged 63.14 miles an hour.

at 6:30, followed at four-minute intervals by its competitors. The weather conditions the previous day had not been at all favorable, but Monday morning gave promise of a fine day, a promise which was more than fulfilled, for not a drop of rain fell during the race, and the sun, though bright, was not so hot as to make matters uncomfortable. All arrangements were perfect. A big grandstand had been erected over the road, and as one watched the racers rush down the hill at seventy miles an hour and disappear under the stand, even the most phlegmatic could not help being carried away by the enthusiasm of the sport. A grandstand had been especially erected on one side of the road for the press (an attention which might have been shown at Auvergne), and opposite were the starters' and timers' boxes and the scoring board.

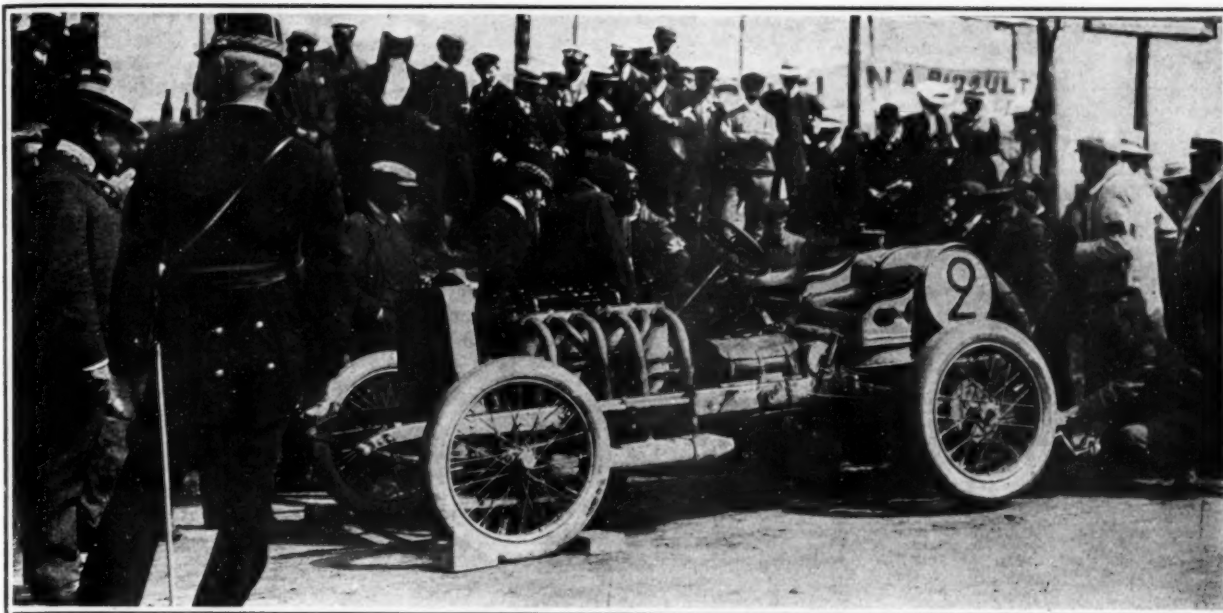
Promptly at 6:30 o'clock, before a large crowd, consisting not only of sightseers of the surrounding country but of a big proportion of the motor experts of France, Germany, Belgium, and a general foreign element, the first start was given. The car was the C. G. V. which had such an unfortunate smash last June in the eliminating trials. Painted in red and gold, with its low radiator, its original slotted frame and its powerful driving gear, it gave one the impression of tremendous power and speed. Behr, who was reported to be a clever driver, held the wheel, and close by stood Girardot, leaning on two canes, having not yet recovered from his accident in the Auvergne elimination race, and watching with keen interest the starting operations.

The word to go was given. Carried away by nervous excitement, Behr let his clutch in with a thud. The car made a jump of ten or twelve yards and stopped dead, the motor continuing to turn at a terrible speed and with a tremendous roar. The fierce start had broken the cardan joint. Behr descended from his seat as pale as death. Girardot hobbled up on his two sticks, shrugged his shoulders and turned away. All the other cars went away regularly, with the exception of the Panhard-Levassor of Teste. A few minutes before the starting time one of his tires had burst, and the car was started with a delay of two minutes.

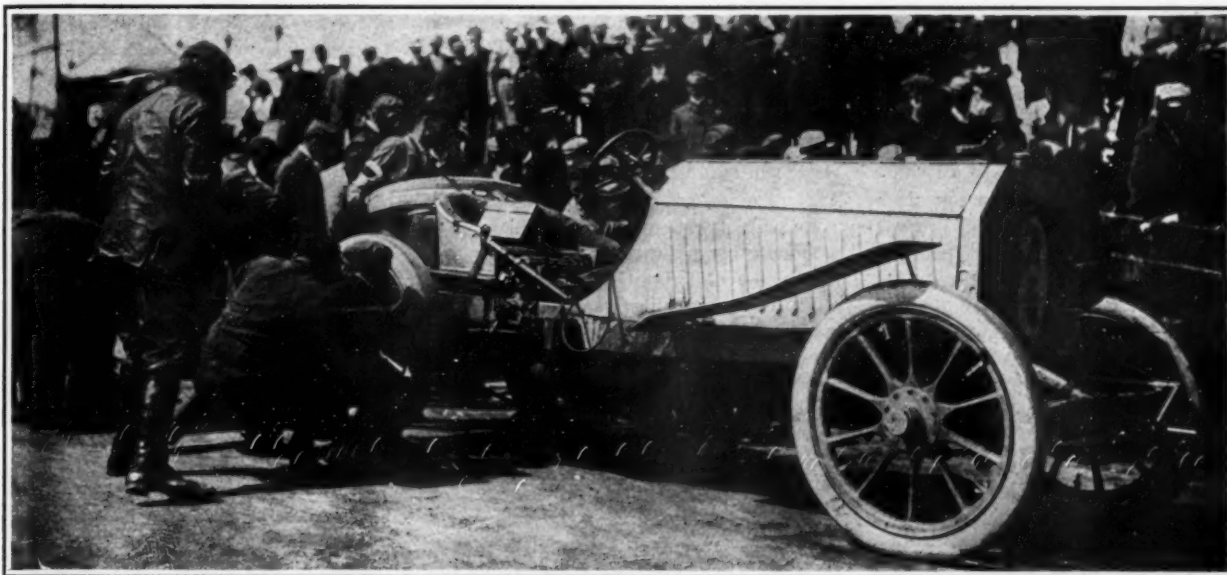
The official times taken at the 100-kilometers post showed the following positions and times:

1, Wagner (Darracq), 55 min. 18 sec. (an average speed of 67.4 miles an hour); 2, Hémerly (Darracq), 57:03; Rougier (De Dietrich), 57:04; Tart (Panhard), 57:11; Jenatzy (Mercedes), 57:30; Duray (De Dietrich), 58:24; De Caters (Mercedes), 59:32; Teste (Panhard), 1:00:03; Heath (Panhard), 1:01:24; Fabry (Itala), 1:01:56; Le Blon (Panhard), 1:07:45 4-5; Montjoie (Darracq), 1:11:52.

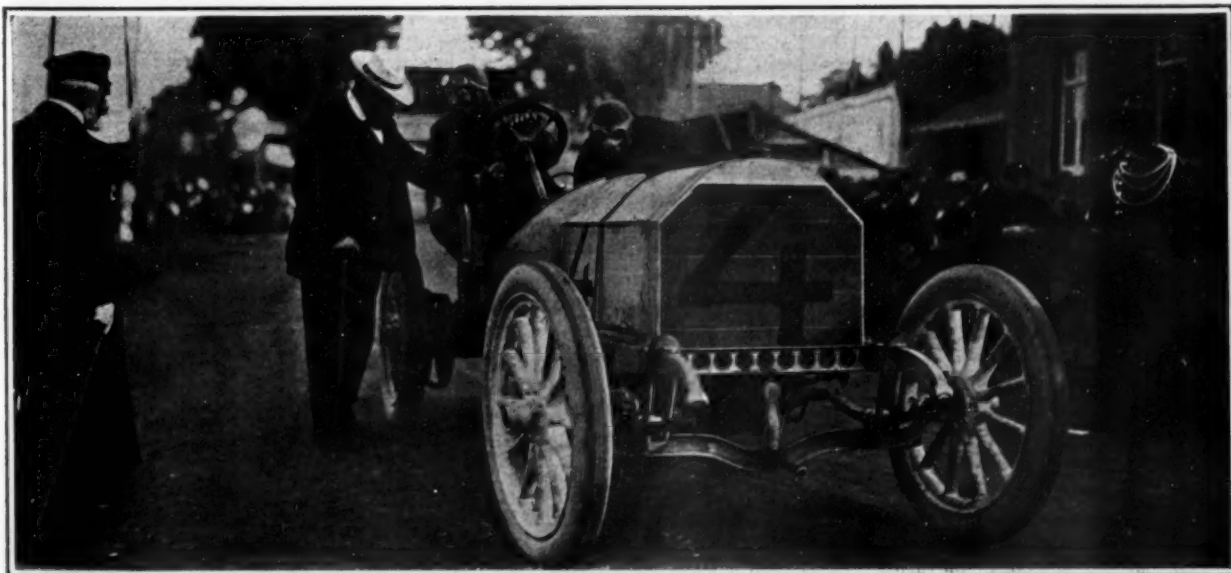
Le Blon's Panhard, the last car to start, had not long disappeared around the bend of the road which hid it from the sight of those on the grandstand when the first car



HEMERY'S DARRACQ RACER WHICH FINISHED FIRST IN THE ARDENNES CIRCUIT, AVERAGING 61.82 MILES AN HOUR.



ROADSIDE TIRE CHANGE ON HEATH'S PANHARD RACER IN ARDENNES CIRCUIT—HE AVERAGED 63.14 MILES IN LAST ROUND.



JENATZY AT THE WHEEL OF HIS MERCEDES RACER TALKING TO BARON DE ROTHSCHILD BEFORE THE START.



GABRIEL'S DE DIETRICH CAR AFTER THE ACCIDENT WHICH PUT HIM OUT OF THE RACE—NEITHER GABRIEL NOR HIS MECHANIC WAS HURT.

to finish the round was announced to be coming. It proved to be Hémary, who started first and had not been passed by his followers. His time was 1:05:44. A few seconds later Jenatzy rushed past in 1:06:21, having passed Gabriel on the round. Wagner came next, having made the fastest time for this first round, 1:04:22. Rougier was close behind in 1:05:58; his companion, Gabriel, did not turn up, however. It was learned afterwards that he had been the victim of an accident very similar to that of Farman in the Gordon Bennett trials. A tire burst, the car turned a somersault and went over the edge of the road. Although severely shaken, neither driver nor mechanic was seriously injured, and both got around to Bastogne later. De Caters, Le Blon and Montjoie all had trouble with their tires, and finished the first round late.

At the end of his second round Hémary was going well; tire trouble had, however, delayed him somewhat, and he was hotly pursued by Jenatzy, who seemed determined to regain the glory he had lost since the Taunus Gordon Bennett race. Rougier, Tart and Wagner—the last-named having also been the victim of tire troubles—were all going well, and the race seemed to lie between these five. Le Blon, Duray, Heath, De Caters and Montjoie were all far down in the list, and did not appear to have much chance of winning. The Italian car Itala had had to join the list of the *hors de combat*, owing to a leakage of water. It had, however, done very fast time on the first round, showing 1:01:56 for the 100 kilometers (62 miles).

At the end of the third round Hémary, on the Darracq, had got a good lead. The redoubtable Jenatzy, who was leading him on the previous round, did not turn up. When within four kilometers of the end of the third round one of his tires burst, and for a short distance he ran on the rim. When he stopped and tried to make a change he found that the flange had been bent in and so much damaged that it was impossible to fit another tire. Jenatzy thus found himself out of the race.

When Hémary finished his fourth round it was plain that, barring accidents, the race

was in his hands. Behind him the two Panhard cars driven by Teste and Tart were running well, followed by Le Blon, Wagner and Heath, all grouped together, with De Caters, Duray and Montjoie well down in the list.

MOTORCYCLE AND VOITURETTE RACES.

The motorcycle and voiturette races were run the preceding Saturday over what is known as the "little circuit," the southern corner of the big circuit, and having a total distance of 40 kilometers 240 meters. This was covered five times, giving a total non-stop run of 201 kilometers 200 meters (125.02 miles).

Rain had fallen all Friday night, and when the competitors came together in the market place of Arlon at 7 o'clock Saturday morning the weather was still unfavorable. However, a clearing in the sky seemed to denote improving atmospheric conditions, and exactly at 7:15 A. M. Giuppone, on a Peugeot motorcycle, was sent away, to be followed at one minute intervals by the remaining twenty-three motorcycle competitors and the three voiturettes. They comprised five Peugeot, four Griffon, three Adler, three Alcyon, three Sarolca, two Primrose, one Z. L., one Prevot and one Verschaere, four of which were in the class for motorcycles weighing more than 50 kilos (110 pounds), and the remainder in the class weighing less than 50 kilos. The voiturettes were two Grégoires and a Darracq.

Eleven motorcycles finished the course. Bucquet on a Griffon machine fitted with Dunlop tires coming in first in 2:12:49 1-5, having covered the course at an average speed of 90 k. 892 m. (56.4 miles). Lamberjack (Griffon) finished second in 2:25:28 1-5, and Demcester, also on a Griffon, third in 2:30:36 4-5. Thomas, who started sixth in the race, had worked up at the end of the first round to second position, having only Giuppone ahead of him. On the next round he passed him and took first position, which he maintained until the end of the race. He had only been at the finishing point a few seconds, however, when Bucquet, who had started nine minutes after him, rushed up and secured first place with a good margin.

That was not Thomas' only misfortune, however, for during the race his gasoline tank being in danger of breaking loose, he had secured it with a stout strap. This brought his machine just over the 50 kilometers limit, and notwithstanding a thorough cleaning of every part of the machine it was found impossible to make the scales register less than a few grammes over the regulation weight. As a consequence, despite his second fastest time, 2:21:53 2-5, Thomas found himself disqualified.

Although there were only three starters in the race for voiturettes, a keen race was witnessed. One of the Grégoire cars quit on the first round, leaving only Wagner on a Darracq and Tavenex on a Grégoire to compete. On the first round Wagner lost more than ten minutes changing a burst tire. Little by little, however, he regained his position, jumping from a seven minutes' loss on the second round to a lead of one minute on the third, five minutes on the fourth, and finishing a little more than five minutes before his rival, their respective times being: Wagner, 2:46:37 4-5, average speed 72 k. 458 m. (45.02 miles) per hour; Tavenex, 2:51:51 1-5.

SYNOPSIS OF PREVIOUS RACES.

Previous records on the Ardennes circuit are as follows:

In 1902, out of fifty-six competitors, Jarrott, on a Panhard-Levassor, won with an average speed of 86 k. 820 m. (53.9 miles) an hour. Baron Pierre de Crawhez won the 100-kilometer cup in 1:02:25 3-5.

In 1903 there were 37 heavy cars, 13 light cars and 18 motorcycles. The Panhard-Levassor firm again won, Baron de Crawhez making an average speed of 87 k. 309 m. (54.25 miles) an hour and covering the 100 kilometers in 1:05:23.

In 1904 there were 33 heavy cars, 2 light cars and 36 motorcycles. Heath secured a victory for the Panhard firm by an average speed of 91 k. 476 m. (56.84 miles) an hour. Duray, with a Darracq, obtained the 100-kilometer cup in 1:03:14 3-5.

The outlook for automobiles in Australia is decidedly encouraging, says United States Consul Goding, of Newcastle, N. S. W. There are 480 cars in use in New South Wales, while in Victoria there are 530, ranging in value from \$10,000 downward. Throughout New South Wales and Victoria the roads are good and are well maintained, and as there is very little rain, the conditions for the use of automobiles are said to be most favorable. Automobiles are coming into use for the transportations of passengers and freight where railroads are not available. One man, who covers a mail, passenger and parcels route of seventeen miles each day, is arranging to use two automobiles for the work. Country physicians and traveling salesmen are making good use of the machine. The consul states that opportunities for American machines are good if the requirements are carefully studied.

Handling of an Air-Cooled Gasoline Car.

By HARRY B. HAINES.

(Concluded from page 165, issue of August 10.)

THE RADIATING SURFACE.

DESPITE the great increase in radiating surface gained by using various types of studs or pins, despite power-driven fans and despite every other precaution, an air-cooled motor is bound to develop heat to a great degree when the low speed is used continuously. When a hill cannot be negotiated on high speed, the clutch should be released before the motor begins to pound, and the low speed engaged, and the driver should slow down his motor at once to that point where it develops just enough power to carry the load along. Under no consideration should the motor be run at high speed when the low gear is engaged. Rushing a hill in this way will take more out of a car in a half mile run than two hundred miles of touring on the high gear would. There is absolutely nothing to be gained by trying to go fast on the low speed.

When touring in a rolling country, I have found it advisable to favor the motor as much as possible. That is, after having climbed a steep grade and while descending the other side, pull the switch plug out and let the car coast for a minute or so with the high speed clutch in. This should not be done on cars where the compression relief is so located that it may be readily reached as many mufflers have been wrecked by just this practice. The engine, while being turned over by the car as it coasts, is of course drawing in charges of gasoline during every cycle, and this is being exhausted unexploded into the muffler. When the spark is thrown on again and the motor resumes its explosions, the first exhaust ignites the unburned gas in the muffler and causes an explosion. This may be of greater or less force, but I have seen mufflers literally torn to pieces as the result of the explosion of this unspent gas.

RUNNING WITH MOTOR DEAD.

Cooling the motor by this method is, of course practical only when descending hills of some length, and the driver should, before reaching the bottom of the grade, open his compression relief lever for a few seconds, allowing the motor to draw in a quantity of air and then throw his clutch out. When the car has reached the bottom of the grade, the engine will have been "dead" for a short time, and the unexploded gas will have escaped from the muffler. Advancing his spark and gas lever and putting on his switch, the driver can throw in his high-speed clutch and the engine will resume its operations considerably cooled.

Summarizing the correct handling of the motor, it may be said briefly:

Never allow the motor to race.

Keep the high-speed clutch tight.

Never try to make speed on the low gear.

Climb hills slowly and make your speed going down or when on the level.

Run the engine at a constant speed. That is, try and keep the car going at the same average pace; don't go twenty miles an hour for a few blocks, then eight or ten miles an hour, then twelve and then eight again. A varying motor speed tends to cause heating.

Don't use the low speed unless you have to; then don't fail to use it.

Never let the motor pound.

Keep the oil running steadily and cut it down when the engine smokes badly. Increase the supply if you are going through a hilly country where it is necessary to use the low speed much.

Always slow down your motor when the car is standing still for any reason and the engine is allowed to run. An air-cooled motor will at times heat up more in five minutes' running free than in hours of hard, steady work.

If for any reason you are standing still for any great length of time, stop your motor.

If your engine is equipped with two or more cylinders, run on them all. An air-cooled motor, or a water-cooled one for that matter, will quickly become overheated as a result of a skipping spark. Every explosion every time is necessary for highest efficiency.

Don't be satisfied just because the engine runs. Have it running right.

VALVE OPERATION AND GOOD COMPRESSION.

The valves play an essential and important part in all hydro carbon engines of course, but in the air-cooled motor they require particular attention. Although air-cooled motors are never run under high compression, and are frequently of slow speed, good compression is one of the most essential features of their successful operation. Valves not properly seated, burned or stuck piston rings or valves poorly timed, will result in an overheated motor at short notice.

In air-cooled cars the compression is likely to disappear over night and at times in a most mysterious manner. I have seen a four-cylinder machine without a single ounce of compression, the result of the use of poor oil. The piston rings had become gummed and the valves stuck, so that the inlets which were automatically operated would not move. It was necessary to take out the inlet valves and wash them in kerosene, and then pour the same fluid into each of the cylinders, cranking the engine by hand to work it in. By this method the compression was finally restored.

TESTING THE COMPRESSION.

The compression may be tested by turning the engine over by hand without open-

ing the relief cock. In the case of a multiple cylinder motor, the compression will at times vary in the cylinders and a loss of power and a jerky movement of the car will result. Each cylinder should show about the same compression. To determine which cylinder is under compression, it is only necessary to press down the various inlet valves until the one is reached that offers resistance to the finger, and it is this cylinder that is on the compression stroke. It will be found as a general thing that inlet valves will not give much trouble on the double opposed type of engine, though in some of the light four-cylinder cars they have been a source of trouble, breaking at irregular intervals and causing delays en route. It is best on cars of the four-cylinder type to carry inlet valves already fitted in their cagings, so that the entire valve and caging may be removed and a new one put in its place. This saves time.

Under no circumstances should an attempt be made to hasten the cooling of an air-cooled motor by pouring water on it. This is, in fact, fatal to the machinery, and many a good engine has been warped and ruined by just this practice.

WEAR OF THE CYLINDER.

Besides the loss of compression, the wear on a cylinder generally makes itself known by a peculiar "slapping" sound heard inside the cylinder when the engine is working hard on a grade.

In double-cylinder opposed motors, the fitting of a new exhaust valve requires care. The wearing of the various pins connecting the valve with the rocker arm and the shortening of the valve itself by continual pounding may necessitate a different adjustment when the new valve is put in. The opening and closing of the valves should be tested and changes made as the occasion requires.

Another cause of loss of compression which is at times a puzzler, is wear on the cams which open them. Overheating of the motor may be caused by the fact that the cams have become worn down and the exhaust valves as a consequence open late. This will retain part of the exploded and useless gas in the explosion chamber and engine head instead of allowing it to escape, and when the new charge is drawn in, it mixes with the old, and is diluted so that it loses a great deal of its explosive force. Loss of power and overheating is the result.

It is seldom necessary to buy new cams. A good repair is to take the cam off, and, tapping a hole in it, fit a piece of steel of sufficient size to make the cam large enough to open the valve at the proper time. This is then faced up and case hardened, and the cam may then be replaced and will perform its function the same as it did when new.

It is of the greatest importance to know that the valves are operating properly, as the whole life of the engine depends upon this. The rules for setting and adjusting

valves and cams differ with various cars, but the basic principles are the same, and the user should familiarize himself with them.

LEAKY EXHAUST VALVES.

Another of the many causes that may result in loss of compression in a motor is the settlement of any dirt or foreign matter in the seat of either the inlet or exhaust valves, although the latter are the more prone to this trouble. Bits of carbonized oil very often fall on the seat of the exhaust valve and are pounded into the metal, causing the valve and valve seat to "pit." They, of course, do not fit closely after this, and the compression is forced out between them as a consequence. In a case of this sort it is necessary to remove the valves and grind them in. In this operation the valve and valve seat may either be much improved or irreparably ruined, and that most easily.

In grinding valves, very finely powdered emery mixed with ordinary lubricating oil should be used. The valve caging should be put in a vice and the seat well cleaned. The seat on the valve should also be cleaned, but a file should never be used. The emery and oil mixture should be put on the seats of both and then they should be ground together. That is done by taking a screw driver and turning the valve right and left for a few times and then turning it around half a turn, always keeping an even pressure on the screw driver in order that the valve may be ground into its seat evenly. Care should be taken to see that the valve is not ground down more on one side than the other, as this will make its condition worse instead of improving it. When the valve seat and the seat in the valve caging have been ground together and are perfectly smooth they may be replaced in the usual way.

CLEANING WITH KEROSENE.

At times it is possible to overcome a loss of compression without removing the valves. I have often been able to do so by removing the spark plugs and pouring about a gill of kerosene in each cylinder. Kerosene may also be squirted on the inlet valves, and when this is done the motor should be turned over slowly by hand in order to let the kerosene work down to the valve seats. When all the oil has been worked out of the engine, a teaspoonful of lard oil should be put through each spark plug hole and the plugs then replaced. The engine may then be started and should be run for ten minutes or so very slowly. A great smoke will result as the kerosene is burned up, but nine times out of ten the compression will be greatly improved.

THE SIGNIFICANCE OF NOISES.

In air-cooled motors, and in fact in every type of gasoline engine, there is nothing so important as the ability to analyze noises. When the engine is in good running order, it runs along with a sort of steady hum that is musical to the ear of the driver.

The whirr of the chain can be distinguished from the click of the inlet valves and the louder knock of the exhausts, and there is no variation in the sounds as long as everything is going along all right, but the moment that some part refuses to perform its function properly, or is not receiving its required oil, spark or gasoline, the engine begins to "talk" and its various protests and noises convey to the trained ear in many cases the exact cause and location of the trouble.

A cylinder that is becoming overheated either from a stoppage of the oil supply or any other cause makes its trouble known by a scraping, grating noise at each stroke of the piston as the dry metals rub against each other. The sound is something like "girr-r-r, girr-r-r, girr-r-r," and steadily increases in intensity. A loss of power can also be noted, and the driver should get out at once and ascertain what the trouble is. To keep on forcing the engine to run may mean a badly cut cylinder and one warped from heat, as well as a stuck piston and the many difficulties resulting therefrom.

When this difficulty is met with, the first thing to be done is to turn the engine over slowly by hand after the cylinder has been allowed to cool and force some oil into it by means of a squirt gun or oil can, then give attention to the oiling system and ascertain positively whether or not the feed is stuffed up, and, if it is, remove the cause. It is possible, in case the automatic oiler gives out entirely, to get home by filling an oil can with cylinder oil and, disconnecting the feed pipes of the automatic, squirt the oil into the cylinders at short intervals.

LOCATING A POUNDING NOISE.

In the event of a pounding noise of any sort developing, investigate it at once. Pounds may be due to many causes, among which are wear in the main bearings or in the connecting rod bearings, wear on the wrist pins of the various pistons, loose bolts on a time shaft, or a loose flywheel. This last cause is, perhaps, the most difficult to locate, and in the event of a pound in the motor developing that cannot be found, in many cases a tightening of the flywheel set screws will remedy the trouble.

A broken exhaust or inlet valve will make its presence known at once by a heavy pounding noise and a great loss of power. Whenever this is noticed, it is advisable to throw off the spark and stop the motor as quickly as possible as the head of the valve, which invariably falls into the cylinder, may mix things up with the piston and do great damage. Before a new valve is put in, great care should be taken to get the head of the old one out.

THE HANDLING OF THE GEARS.

Apart from the fact that the transmission and gears may give trouble of themselves, they play a most important part in the matter of keeping the air-cooled engine cool; that is, in reference to the manner

of handling them in connection with the engine, to secure the best results with the least machinery wear and engine overheating.

Cars having a bevel-gear drive are racked more in starting and changing gears than in any other way, and great care should be exercised at these times in order to prolong the life of the gears, and, in fact, the whole machine. Cars fitted with this type of transmission generally have three or four speeds forward and one reverse, and start very readily on level ground on the second speed. The gear lever should always be locked firmly in place before the clutch pedal is released, and the driver should aim to have his engine speeded up sufficiently so that the clutch may be allowed to slip in easily and slowly, and the car start with a steady pull forward instead of a quick jerk as the clutch takes hold.

The grinding and crashing of gears often heard in changing speed is due to the fact that gears are allowed to clash together and grind while going from one gear to the other.

DECLUTCH WHEN CHANGING GEARS.

The clutch should always be entirely disengaged when gears are changed, and the movement of shifting should be quick and not jerky or hesitating. The car should always be running at about the normal speed of the gear engaged when the clutch is allowed to take hold.

Nothing is more destructive on tires than allowing a gear to be drawn into operation quickly by the clutch, which strains the motor and spins the driving wheels around.

The same general rules also apply to cars fitted with the sun and planet type of gears, which is generally a three speed system consisting of a high and low speed forward and a reverse.

No matter what the gear system may be, the driver should use the greatest care in negotiating difficult roads. Gears are often stripped or chains broken in pulling out of a muddy place or a deep hole. Many drivers speed the motor up to its full capacity and then throw in the low speed gear. The result is usually a great strain on the car and stalling of the motor. If this is continued several times, a badly overheated engine will be the result. Little good can be done by engaging the clutch or throwing in the low speed gears on any car when the motor is racing, and the strain on the transmission, engine bearings, gear box and crank case is enormous. Nine times out of ten the wheels spin around but the car sticks. A steady pull will accomplish a much more satisfactory result without the danger of putting the car out of commission.

FORCING CARS ON HILLS.

In this connection the same rule applies to the forcing of cars on hills. The drivers of many cars overheat their motors by trying to resume the high speed after having fallen back on the low gears while climbing a grade. For instance, I have seen

drivers rush a hill on the high speed and then, as the motor began to pound, fall back into their low gears, and in a second or so speed the engine up to its limit, and then engage the high speed clutch again. The car generally spurts forward a few feet and then begins to labor, and, in order to avoid stalling the motor, the driver must go into low speed again. One man in particular that I know of met mishap with a four-cylinder air-cooled machine by repeating this practice a number of times while going up a long hill. His engine became so overheated that the pistons stuck and the car was stalled for a considerable time and the cylinders were considerably damaged. It is generally advisable to continue up a hill on the low speed after having been obliged to use it, unless the grade changes so materially that the car can be depended upon to "pick up" on the high gear and continue without pounding or laboring.

ON HANDLING BRAKES.

The care and handling of brakes is a feature worthy of attention in the driving of any car. Clutches should invariably be kept free from oil as far as possible. In the sun and planet type of transmission the gear bands invariably gather a great deal of oil, and a good scheme for cleaning them is to squirt gasoline under the bands and allow it to work around. This may be done without removing the bands, and it will take the greater part of the dirt and grease out of the leather. Follow this with a thin coating of lard oil to make the leather pliable, and if the bands still slip, a little sulphur or powdered rosin will generally absorb the oil and bring them around all right. The same thing applies to cars with leather-faced clutches, but if rosin is used care should be taken for the first half hour or so in engaging the gears, as the rosin will cause the bands or clutch to take hold suddenly and jerk the machine into motion at times rather violently.

There are no end of suggestions that might be made as to the care of the various parts of the cars, but to each owner of an automobile the situation presents different phases, and each must use his own good judgment. Generally speaking, it is well to remove driving chains about once in every 1,000 miles of touring and boil them in a pail of water containing four pounds of sal soda. This will remove the dirt and grit and the chain may then be rinsed in clean hot water and hung up to dry, after which each link should be oiled and graphited and the chain replaced.

Remember that your car is not indestructible; give the engine a fair chance, and use ordinary "horse sense" in getting over the road, and your touring experiences will be unmarred to a great extent by breakdowns or delays on the road. There is no doubting the fact that the success of the touring car of to-day depends almost entirely on the knowledge and skill of the operator, be he chauffeur or owner.

Concluded.

Bollee Automatic Carbureter.

Experience has shown that a spray carbureter cannot be made to give a perfect mixture of gasoline vapor and air unless there is a suitable ratio between the areas of the openings for air and gasoline, and that these ratios must vary with the volume and velocity of the flow. Believing that the correct ratios could best be maintained by varying the capacity of the mixing chamber and of the various passages, M. Bollee,

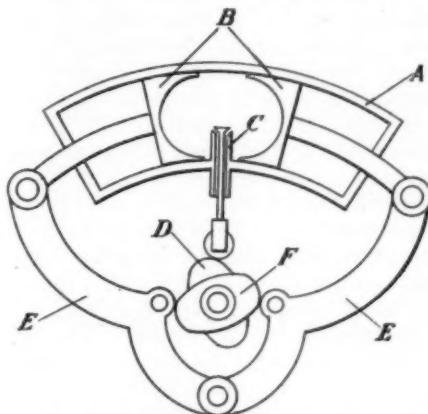


FIG. 1.—BOLLEE MECHANISM FOR VARYING AREA OF AIR PASSAGE AROUND FUEL NOZZLE.

manufacturer of the cars that bear his name, has designed a carbureter in which mechanical means are provided for automatically making these adjustments so that a correctly proportioned mixture is always sent to the engine, regardless of variations of piston speed.

M. Bollee's fundamental idea is to vary the size of the chamber surrounding the spraying nozzle, and at the same time to proportionately vary the area of the opening in the spray nozzle. A number of devices for accomplishing the desired result were tried, and two are here illustrated.

In Fig. 1, *A* is a hollow casting of rectangular cross section, in which two sliding pieces, *B*, are fitted closely. The space between the concave faces of these pistons, as they may be called, constitutes the mixing chamber, into which rises the spray nozzle *C*, the opening of which is regulated by means of a small valve whose stem extends downward, terminating in a roller to take the thrust of the cam *D*. Cam *F* acts upon the arms *EE*, which are hinged together at their lower ends and connected at their upper ends with the pistons *B*. The two cams are immovably secured to the same shaft; the shaft is provided with means by which it may be partially rotated automatically by a governor or manually. It will be seen that rotation of the shaft from left to right will cause the cams to separate the arms *EE*, and, consequently, the pistons *B*, thus increasing the size of the mixing chamber. Simultaneously the valve in the spraying nozzle is caused to open by its cam; the valve must always have the same area of opening when the mixing

chamber is of a given area, and the proportions are fixed by the lift of the cams. Suitable springs are, of course, provided, tending to keep the valve closed and the pistons close together.

This device was made in a slightly different form, though on the same principle, by making the casing *A* straight instead of in the form of an arc struck from the center of the pivot of the arms *EE*. This arrangement, however, necessitated a somewhat complicated system of linkage, and for this reason the form illustrated was considered the best.

Another apparatus for accomplishing the same results, and based on the same principles, is shown in Fig. 2. This arrangement is considered a better one in every way than the first. Two drums, *AA*, are mounted on short shafts in cylindrical chambers in which they fit closely. A groove, *BB*, of approximately semi-circular section, is formed in the periphery of each drum; the groove is shallow where it commences, but increases its area as it passes around the drum. The shaft of each drum is extended upward, and each is fitted with a spur gear, *CC*, the gears meshing so that the motion of one of them must move both drums. The spraying nozzle is placed with its opening at the center of the chamber formed by the grooves in the drums. The stem of the valve which regulates the area of the nozzle opening screws into the casing with a quick thread, and, like the drum shafts, is fitted with a gear *D* meshing with a similar gear *E* on one of the drum shafts. The rotation of the gear causes the valve stem to be raised or lowered, according to the direction of rotation, by the thread. As all the gears are fixed on their respective shafts, it will readily be seen that when any one of them is rotated the others must also rotate. Thus, as the drums rotate, wider sections of the grooves are brought opposite the spray nozzle opening, and the mixing

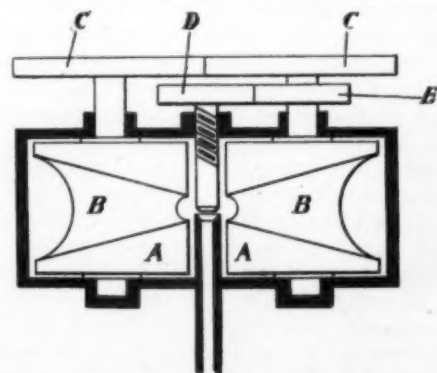


FIG. 2.—ROTATING SPOOLS TO VARY AREA AS NOZZLE VALVE IS REGULATED.

chamber is made larger. At the same time the screw raises the valve and gives a wider opening for the flow of gasoline, the relations of the openings being fixed by the mechanical connections.

Though these devices may be operated manually by the driver, they were designed to be operated automatically by a governor.

Concerning the Recent Transcontinental Race from New York to Portland, Oregon.

BY JAMES W. ABBOTT, FORMERLY SPECIAL AGENT U. S. OFFICE OF PUBLIC ROADS.

(Continued from page 152, issue of August 10.)

IN selecting a route west of Omaha there was at first a temptation to sacrifice directness for the sake of including certain important cities. This idea was very wisely relinquished. It was decided to take the direct route, and in so far as possible to keep close to the Union Pacific railroad system. As the automobile habit in the far West is soon to have a phenomenal expansion, and as by reason of topography this railroad system, sometimes known as the Harriman System, is the one with which the transcontinental automobilists will come most in touch, it is pertinent that something should be said about the attitude of that system towards the automobile and their inter-relation.

The constituent members of that system are known and operated under four separate names, according to the field covered. From New Orleans to San Francisco, via El Paso and Los Angeles, it is called the Southern Pacific. On the central route, from Omaha to San Francisco, it is known as the Union Pacific as far as Ogden, and the Southern Pacific the balance of the way. On the Portland-Omaha route one line of track starts from Granger, Wyoming, and one from Ogden, Utah, and run northwesterly, converging near Pocatello, Idaho. This is known as the Oregon Short Line. It again diverges at Pocatello, one arm running to Butte, Montana, and the other in the direction of Portland. This latter arm of the Oregon Short Line extends to Huntington, Oregon, on the Oregon border, where it meets the line of the Oregon Railroad and Navigation Company, and over this the system enters Portland from the Southeast. The system also has a line from San Francisco to Portland which is known as the Southern Pacific. The general passenger and operating departments of that part of the system which most interests the transcontinental automobilist are at Omaha, Salt Lake City, Portland and San Francisco. It is indeed a curious and interesting historical fact that the first overland mail, stage and express route to San Francisco passed through El Paso, Texas. It is safe to predict that ere long some adventurous automobilist will retrace that old route and add his accomplishment to the swelling list of new records.

The assistance and information furnished us by General Superintendents W. L. Park, of Omaha, and E. E. Buckingham, of Salt Lake, and General Passenger Agents E. L. Lomax, of Omaha, D. E. Burley, of Salt Lake, and A. L. Craig, of Portland, Oregon, were important if not absolutely controlling factors in the success of the recent contest between *Old Scout* and *Old Steady*. We were always furnished cordially and punc-

tuately by letter or wire, as we wished, any available information about matters concerning us on any part of the system. Supplies, conditions of roads and bridges, whereabouts of each car, our personal letters and telegrams, were all matters of solicitous interest to every class of employees on the system. It is impossible for one to feel much isolated, or very far removed from home or the world's activities, when every man he meets extends a cordial greeting and manifests a desire to be of service.

The road which we intended to take west from Omaha to Granger followed the railroad very closely, always keeping it in sight. The boys pulled out of Omaha on a beautiful, balmy afternoon, with high hopes and cheering prospects. With roads as they expected to find them, Cheyenne, 500 miles away, should easily have been reached in three days. There were neither heavy grades nor deep sand to impede progress. In settled weather, with roads dry, good time is just as attainable between Omaha and Cheyenne as between New York and Buffalo.

Such good luck was not to be. By noon the next day they not only found themselves in pouring rain, but they discovered that they were entering a rain belt where the elements had been acting with great freedom for a couple of weeks. It is said to have been the custom on the roads of England during the middle ages for the hapless traveler to seek the highest ground as he journeyed across the country, trying to avoid being engulfed altogether. And so it was with the boys. They see-sawed from ridge to ridge, and back and forth across the Platte River. It was no use. The harder they tried and the more recklessly they defied the mud and rain, the worse things got. Instead of reaching Cheyenne on May 28, as they had expected to do, it was late at night on May 31 when *Old Scout* reached there, and *Old Steady* was still a day behind that.

A few miles west of North Platte the Sand Hill region of Nebraska is reached. That doesn't mean steep hills, but it means a sandy soil through which water drains more readily than it does through the black prairie soil of the corn belt farther east. North Platte is on the dividing line between the farming country which thrives without irrigation and that where it is a *sine qua non*. At Julesburg, eighty miles further west the soil is naturally so arid that it would take five hundred acres to winter a goat in normal years. When we reached there Julesburg was a bog hole, and the mud in the roads axle deep for wagons. Men who had lived in that country for



Transcontinental Tourist at One of the Many Buttes in Wyoming.

thirty years, who appeared to have the fear of God in their hearts, and to be not prone to lies, asserted that never before had such rains been known in that section. The innate selfishness of the human heart could never be more typically illustrated. They all persisted in viewing this unprecedented downpour from the standpoint of its effect upon the ranch and the range, and without commiseration for Huss and Megargel.

At North Platte the aboriginal civil engineers of Hosea had exhibited that fallibility in location which has not lacked analogy in the practice of the human species. The trail which they outlined continued to follow the Platte River in its general course for 400 miles to its junction with the Sweetwater, and then it followed the Sweetwater 125 miles further up the gradual and at last imperceptible slope of the South Pass; and when the very indefinite line had been passed where the waters divide, one-half flowing down towards the Atlantic and the other half toward the Pacific, this trail of the buffalo and the savage had led the fur trader down a fork of the Green River for a distance before it again turned to the northwest.

There are no more thrilling pages in American history than those which tell of the trails to the far West. The early movements westward were naturally by water. Men could move themselves and their belongings that way more easily and with more security against the treacherous savage. When Captains Meriwether Lewis and William Clark in 1804 sailed up the Missouri on that perilous mission from President Jefferson they found that French

traders had preceded them for many hundred miles. They sailed on up the Missouri, along the eastern border of what is now the State of Nebraska, through what are now South and North Dakota, and on through the Montana of to-day well toward its northwestern corner. Then leaving the river after it ceased to be longer navigable, they crossed the Indian's "Shining Mountains," and after almost incredible perils reached the headwaters of a northeastern fork of the Columbia. Finding this impracticable for their purpose, they abandoned it, and, crossing the Bitter Root Mountains, passed over to the head of the Clearwater, which they followed down to the Snake, and that on down to its junction with the main Columbia, and still on down that majestic stream to its mouth, where they found at last the western ocean which they sought.

Year by year after the return of Lewis and Clarke the fur traders pushed farther and farther up the various heads of the Missouri. In 1808 Mr. Henry, the partner of that bold and crafty Spaniard, Manuel Lisa, of St. Louis, pushed over the mountains and built a crude log fort on one of the branches of the Snake. That main affluent of the Columbia had already become known as the Lewis River, and it is disgraceful perfidy to the memory of that great explorer that this river to-day is not universally called by his name.

About this time John Jacob Astor was indulging lofty aspirations. As a stripling youth without means he had left his humble home in the little German village of Waldorf on the Rhine and had finally come

to seek name and fortune in this young republic of the New World. Embarking in the fur business, he had prospered, and was soon rich. He conceived the purpose of establishing the American flag at the mouth of the Columbia and confirming to the United States the rights acquired by discovery, but threatened by British aggression. He dispatched expeditions by land and sea. The one by land, in charge of his partner, Wilson P. Hunt, left St. Louis in October, 1810, and followed for a distance the usual route up that river. Near what is now the boundary between North and South Dakota he left the Missouri, and, striking off overland several hundred miles to the southwest, he crossed the mountains and made for Henry's fort on the Lewis. Continuing down the river and through the Blue Mountains, he struck the main Columbia at the mouth of the Umatilla, and where the Columbia reached the ocean he came to the ill-starred settlement of Astoria, founded the previous year by the expedition sent by sea. Hunt had traveled by the circuitous route he had followed more than 3,500 miles from St. Louis, and consumed fifteen months of time.

The information about topography gained from all sources on this trip proved that any route to the Pacific which ascended the Missouri for a long distance and then crossed the mountains was not only too circuitous, but involved much needless peril and labor.

In June, 1812, Robert Stuart with a small party of mountaineers started from Astoria overland to bear to their chief reports of his enterprise. Profiting by the experience

and information secured by Hunt, Stuart on this trip approximately outlined what in after years became the Oregon trail.

Complications greatly aggravated by the War of 1812 finally wiped the little colony at Astoria and its American flag off the map, to the overwhelming disappointment and serious loss of its eminent and patriotic founder. But not so with the Oregon trail. For many long years after this trip of Stuart this trail played its part in most of the important events which went to make up far Western history. The fur traders used it in going back and forth from both the East and West to new posts as they were established. In 1823 General W. H. Ashley, senior partner of the Rocky Mountain Fur Company, followed it up the Platte and Sweetwater and explored the headwaters of Green River. He was the first to write of the South Pass. The following year he pursued it still farther, and then, diverging to the southwest, discovered that strange remnant of a prehistoric ocean which, after bearing several names, came to be known to the world as the Great Salt Lake.

In 1832 Nathaniel J. Wyeth, of Boston, emulating the example of the founder of Astoria, followed it clear to the Columbia, and two years later, on a second trip, built a fort near the present site of Pocatello, which stood for very many years and was known as Fort Hall. With him on that trip went the first missionaries, carrying the gospel and once more the American flag, this time to stay forever in Oregon. In 1835 went other missionaries.

The next year Rev. Dr. Whitman and his newly married wife, with Rev. H. H. Spaulding and his wife, and W. H. Gray, followed the beckoning cross along this trail. In their outfit, which was under the escort of the American Fur Company, were three wagons, eight mules, twelve horses and sixteen cows, besides tools, seeds and other vital needs of a primitive settlement. At Fort Laramie, 522 miles from Council Bluffs, two wagons were abandoned, because the trappers insisted that the trail was impassable for wagons; but in spite of their increasing protests one of the wagons was pulled in triumph to Fort Hall. Dr. Whitman said the ladies must have it to ride in. At this point he compromised with their insistent objections by cutting it in two, and thus in the shape of a cart it went nearly three hundred miles further, where, yielding with great reluctance to their importunities, he abandoned it altogether.

Yearly the little American colony in Oregon was supplemented by additions received over this trail. In 1840 three wagons were brought through, the first to make the complete trip, and these "horse canoes" were regarded with appropriate wonder by the astonished Indians, who recognized in them fresh evidence of the versatile resources of the "Bostons," a term which they had learned to apply to all American invaders.

In 1842 Lieutenant John C. Fremont, on



DWIGHT B. HUSS DELIVERING MESSAGE OF MELVILLE E. STONE TO PRESIDENT H. W. GOODE OF THE LEWIS AND CLARK EXPOSITION, ON JUNE 21

his first exploring trip, went up the Platte and Sweetwater, "discovering" as he went all the important physical features of the trail so well known to the early Oregon pioneers, and the following year, on his second expedition, he "discovered" clear through to Vancouver, on the Columbia.

The Hon. Thomas H. Benton, so long a stalwart bulwark of Democracy in the United States Senate, whose beautiful daughter Jessie had married the young explorer against her father's vehement opposition, soon became very proud of his gifted son-in-law, and never missed an opportunity to exploit his achievements. One day with glowing oratory he was eulogizing the "discoveries of the Pathfinder," when some irreverent soul in the audience shouted: "Yes, discovered paths made by women and children."

In 1843 the Oregon colony was swelled by many additions, one single train coming in with a lot of prairie schooners and over two hundred people over this now quite thoroughly "discovered" trail; and from that time the westward flowing tide of emigration went mainly to the Columbia River until California, through the fortunes of war, had become American soil.

At first the California trail turned off at Soda Springs, about seventy miles before Fort Hall was reached, but after the Mormons came, in 1847, many took the trail which they had made, and which turned off from the Oregon trail at a considerable distance before Fort Hall was reached.

(To be concluded.)

ACCIDENTS WITH FATAL RESULTS.

In an accident that practically wrecked his 40-horsepower Mercedes last Saturday afternoon Vinson Walsh, son of Thomas F. Walsh, of Washington, D. C., was killed; his sister, Miss Evelyn Walsh, was seriously hurt, and Mrs. James L. Kernochan, Herbert Pell and Harry Oelrichs, who were accompanying them, were also injured. The accident occurred a short distance from Easton Beach, near Newport, R. I. Young Walsh, who was driving the car, for some reason lost control of the machine, and it crashed through the fence, throwing the occupants to the ground. He had on several former occasions been warned as to his fast driving, and at the time of the accident he is said to have been traveling at about forty miles an hour.

Another fatal accident is that which occurred on Monday afternoon, August 14, when Harris M. Lindsley, Third Deputy Police Commissioner of New York City, accompanied by his fiancée, Miss Evelyn Willing, of Chicago, and chauffeur, were returning to Bennington, Vt., from a day's trip to Williamstown, Mass. Between Bennington and North Bennington the machine collided with a train on the Rutland Railroad, killing almost instantly both Mr. Harris and Miss Willing, while Jesse Adamson, the chauffeur, was probably fatally injured. Both the car and the locomotive were running at high speed.

Upbuilding of a National Organization.

INFUSION of new blood into the executive branch of the American Automobile Association this year has resulted in a display of energetic action under the Lee administration that augurs well for the growth and future position of the organization as a representative national body. Although the gathering up of the reins of office by new officers from time to time has occasioned considerable delay, the policy outlined by the board of directors at the special meeting held February 17 last has been kept constantly in mind and the work along the lines laid down has been prosecuted as fast as possible with the means at hand. The policy as outlined at that time was as follows:

1st—To unite in one national body the automobile clubs of the United States, and through them the individual automobilists.

2d—To promote and further all matters of a national character in which automobilists are interested, and particularly these: (a) legislation, (b) good roads, (c) control of racing.

3d—To provide for its members actual benefits, and particularly these: (a) reciprocal club privileges, (b) bureau of information concerning laws, touring routes, road maps, racing statistics and similar subjects, (c) a medium for the exchange of ideas and information of value to clubs in furthering their promotion and usefulness and value to individual automobilists.

The foregoing covers a field of operation broad enough to engage the energies of the association officers for years to come, and while it is impossible to put the entire policy into thorough effect at once, initial work is being done along the most urgent and important lines. To this end efforts are just now being made to form additional state organizations of automobile clubs which shall be affiliated with the A. A. A., a bureau for the furnishing of information regarding touring routes has been established, a very active part in the control of track and road racing has been taken, and the influence of the organization is being given to aid the good roads movement and to secure uniformity of state automobile laws.

There are already three state associations of clubs affiliated with the national body—the New York State Automobile Association, the Massachusetts State Automobile Association and the Illinois State Automobile Association. Efforts to form a New Jersey association are now crystallizing, and a meeting of delegates from the leading clubs of that state with the officers of the national body was called for Wednesday, August 23, at Long Branch, during the automobile carnival there, for the purpose of formal organization. The representative clubs of the state had agreed to send delegates, and the indications are for a very successful outcome.

It is expected that Pennsylvania will be the next state to unify its clubs and join the three A's, as the Philadelphia and Pittsburgh clubs and a number of others in smaller cities have responded favorably to the suggestion and agreed to send delegates to a meeting for the purpose at any place and time for which a call is issued. It has been proposed that such meeting be held in some summer resort place, such as the Delaware Water Gap, and that the delegates tour to the rendezvous from their respective cities. It is thought now that such meeting may be held in September or early October, before the bad fall weather sets in.

The Davenport Automobile Club was recently taken into the national body, and it is hoped soon to form an Iowa division through the leadership of the Davenport club. President Wilson, of the Louisville Automobile Club, who was in New York recently, has returned home enthusiastic over plans for having the Lexington, Paducah and other clubs unite with the Louisville club in the formation of a Kentucky association.

Similarly, efforts are being made through the Colorado A. C., the St. Paul A. C., the A. C. of California and the Milwaukee A. C., to bring the foremost clubs of Colorado, Minnesota, California and Wisconsin together in state bodies. In promoting this work, the A. A. A. sends out to the club that is taking the leadership in each state a draft of a constitution which can be used as a basis for constitution and by-laws by each body, with such changes as are necessary or deemed advisable. This draft is based upon the constitution of the New York State A. A., though certain changes have been made to render more clear the relation of the state body with the national head and to make the draft applicable to any state organization.

Efforts are being made simultaneously to secure the membership of individual automobilists not affiliated with local clubs. Benefits to be derived from membership are explained and it is pointed out that as the membership grows the influence of the association increases so that more important and direct results can be derived from representations made in connection with good roads and legislative matters. Club members are admitted to the A. A. A. for a membership fee of \$1 a year, and individuals for \$2. One-half of each amount goes into the treasury of the national body and the other half into that of the state association in the state in which the member lives. Thus the member derives direct local benefit as well as the advantages conferred through the national body, such as reciprocal privileges at the quarters of other affiliated clubs, reduced rates on road maps, information concerning any particular touring route desired, national legis-

lation for highway improvement, and, if it can be brought about, uniform state automobile laws.

A touring information bureau has already been established through which members can secure, in a few days' time, descriptions of any desired route for which there is available information. From two to half a dozen inquiries are already being received daily and answered by this bureau, and the work will be extended as rapidly as possible, as it is realized that this is one of the ways in which membership in the A. A. A. can be made of greatest value to the individual. In addition to this, arrangements have been made with the Survey Map Company, of New York, whereby a series of 170 maps in eighteen different sections of eight to ten maps each is being published covering a part of Maine, most of New Hampshire, all of Massachusetts, Connecticut, Rhode Island and New York State, and the portions of Pennsylvania, Ohio, Michigan, Indiana and Illinois through which the popular "lake shore" touring route to Chicago and the West passes. These maps are compiled largely from information secured through members of the A. A. A. who have actually toured over the roads. The auto routes are printed in red. On the backs of the cards on which the map sections are printed are careful descriptions of long through routes, with distances between towns and the progressive mileage. The maps are on a scale of four miles to the inch.

Such hotels on main touring routes as are willing to give assurances that tourists will be given the best accommodations without overcharges are being appointed official A. A. A. stopping places. No effort is being made to secure reduced rates for accommodations, as it is felt that the automobilist wants first-class accommodations and is willing to pay the same rate as other travelers for them.

In the matter of good roads work, the A. A. A. expects to co-operate with the National Association of Automobile Manufacturers and the Automobile Club of America in the dissemination of highway improvement information through the public press, particularly in the country newspapers, and in urging the passage by Congress of the Brownlow bill for the establishment of a national highway bureau and a national appropriation of \$24,000,000 to be apportioned among the states and territories to aid and encourage the making of hard roads during the next three years.

A. R. Shattuck, chairman of the highways committee of the A. A. A., is soon to return from Europe, where he has been touring, and next fall and winter will prosecute the work of his committee with his characteristic energy. Secretary Batchelder, who is conducting a voluminous correspondence in connection with all branches of the A. A. A. work, feels that the country is fast approaching a period of general awakening to the necessity for road improvement and that the chances for the passage of the na-

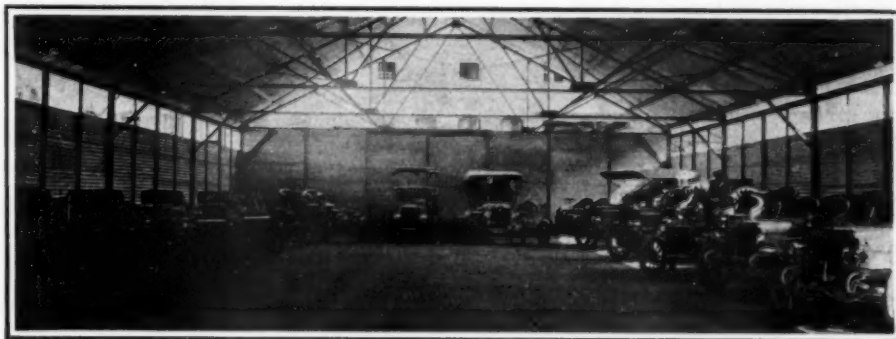
tional aid law are increasing daily. Regarding the attitude of residents of the rural districts toward the interest in good roads taken by automobilists, he says that the activity of the automobilists in the matter does not seem to cause resentment among the farmers. The principal objection to road improvement held by the farmers in states where state aid laws are not in operation, is that the burden of cost falls upon the rural sections while the city dwellers derive a large share of the benefit, especially tourists. By working for state and national aid in road building, the automobilist can ingratiate himself into the good opinion of the farmer, since under such laws the cities will have to pay a fair proportion of the cost of the work. As an evidence of the good will of the good roads workers toward automobilists, Mr. Batchelder exhibited last week an invitation from H. S. Earle, Michigan state highway commissioner and former state senator, to attend and address a good roads meeting soon to be held in Port Huron, Mich., at which it is planned to have an automobile assemblage and to give the delegates from the farming districts through-

taking a great deal of personal interest in the contest. He hopes to show a neat profit on the race and to demonstrate that the control of racing redounds not only to the credit of the Association, but also can be made to yield some revenue in return for the time and work expended.

Under the presidency of Elliot C. Lee there is a general unanimity of purpose and effort among the officers and the work of the different departments is going forward steadily and with promise of more rapid progress in the future.

Garage in Honolulu.

Anyone who labors under the impression that there is "nothing doing," so far as automobiles are concerned, in Honolulu, in the Hawaiian Islands, is greatly mistaken; and proof is forthcoming in the accompanying engraving. This shows part of the interior of a garage recently opened in Honolulu by the Von Hamm-Young Co., agents for the White steam cars at that place. The garage has a floor space of 5,000



GARAGE BUILT OF ANGLE IRON, CORRUGATED IRON AND CONCRETE, RECENTLY OPENED IN HONOLULU, HAWAIIAN ISLANDS.

out the state a ride in automobiles with the object of bringing the farmers and automobilists into friendlier relations.

Efforts are to be made this fall by the law committee under the chairmanship of James B. Dill, to have the New Jersey automobile law amended so that the licenses issued by other states will be recognized in New Jersey. The majority of the state laws have clauses providing for such reciprocity, but, strangely enough, the new law of New Jersey, which is considered very liberal in most respects, does not, and motorists living just over the Hudson river in New York City may not cross into Jersey City or venture elsewhere in the little state where the many miles of fine roads are so tempting without first providing themselves with New Jersey licenses. It is hoped that in time all of the state laws can be so modified that the owner of a car can go anywhere in the United States with one license and one tag.

Attention of the racing committee is just now directed particularly toward the William K. Vanderbilt cup race, and Robert Lee Morrell, chairman of the committee, is

square feet and can easily accommodate thirty cars; it is entirely fireproof. Dressing rooms, with plenty of lockers, are provided for men and women. In the rear of the garage is a completely equipped machine and repair shop. The building adjoins the Alexander Young hotel.

BUFFALO CLUB BANQUETS PIERCE

Special Correspondence.

BUFFALO, N. Y., Aug. 21.—An enthusiastic gathering of automobilists met in the rooms of the Automobile Club of Buffalo last Friday night to attend the banquet in honor of Percy Pierce, winner of the Glidden touring trophy. There were about fifty persons present.

The tables were arranged in the form of a "T," and Augustus F. Knoll, president of the club, presided. There were a number of speeches, all teeming with praise for Mr. Pierce and his successful tour, and also taking the stand that the true use of the automobile is for touring or pleasure purposes, rather than for racing.

Proposed Road Racing Circuit Around Lake Chautauqua in New York State.

Special Correspondence.

JAMESTOWN, N. Y., Aug. 18.—A movement has been started here to improve the existing roads around Lake Chautauqua and so obtain a 44-mile circuit for automobile racing. The suggestion started with the management of the Duquesne Construction Co. and has been taken up by a number of the progressive business men and farmers of this section who are enthusiastic about the possibilities.

Chautauqua county has been very backward in the matter of good roads, although this is one of the most attractive summer resorts in the State and famous throughout the world as the home of the original Chautauqua Assembly. The movement received a boost at the recent good roads convention held in Lakewood, near here, at which there was a very representative gathering of the landowners of this lake country. It was shown there that under the provisions of the Higbie-Armstrong law the State pays 50 per cent. of the cost of road building, the county 35 per cent. and this leaves only 15 per cent. to be paid by the townships or the abutting property owners.

Those interested in the proposed circuit see in it not merely an opportunity to hold an annual road race, but an attraction during the entire summer season to the drivers of touring machines and owners of horses who wish good roads for an enjoyable spin around one of the most beautiful lakes in the country. Such a circuit would attract hundreds of summer hotel visitors and cottagers, whose material wants are supplied largely by the farmers of the county. And as the lake is on the highway from New York to Chicago it would become one of the most popular stopping places on the journey, when that projected trunk route is completed.

Although everybody in America knows Lake Chautauqua by name probably many have only a hazy idea of its exact location. This is in the southwest corner of New York State near the Pennsylvania line. It is easily reached by rail; Mayville at the

head of the lake—the county seat—is on a branch of the Pennsylvania system and Jamestown at the other end is on the main line of the Erie Railroad. A trolley line on one side of the lake connects these towns and passes through Lakewood, about five miles from Jamestown, and alongside the famous Chautauqua grounds, about three miles from Mayville.

The lake itself is shaped not unlike the figure 8, with a length of twenty-two miles and an extreme width of three miles. It is notable among lakes as being the highest navigable water in the country on which

The existing roads are not very wide nor are they of good surface, yet the right of way is ample for the construction of a splendid wide country road, and, though suitable stone is not found in the locality, there is an abundance of gravel. There are numerous grades, but only such as would make an automobile race interesting and give zest to a touring car trip. Practically all the way around the lake is in sight from the road and for miles it is within gunshot of a passing car, giving lovely views of woodland and water in the clear and balmy summer air.

With the exception of Jamestown, an exceedingly busy and prosperous manufacturing city of 30,000 inhabitants, the existing roads do not pass through any large settlements. Mayville has about 1,500 permanent residents, but the road here is



TOPOGRAPHIC MAP SHOWING RELATION OF LAKE CHAUTAUQUA TO VARIOUS CITIES.

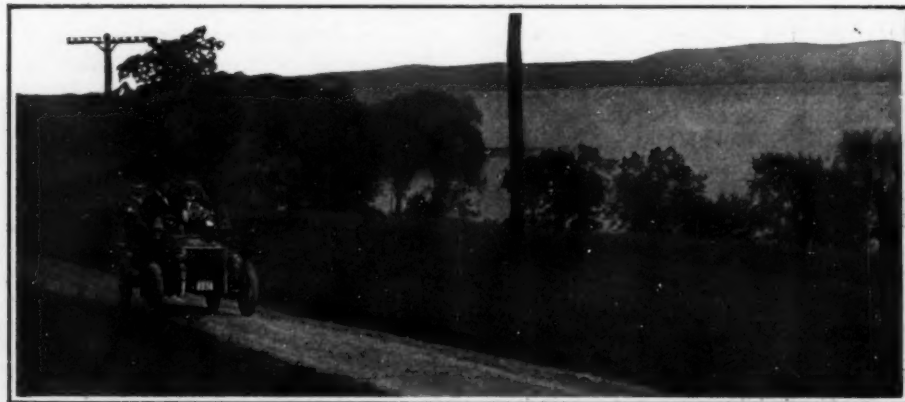
regular lines of steamers ply, with the exception of Lake Tahoe in California. The lake is elevated 1,450 feet up in the air, giving it a delightful summer climate. Lake Erie, from which it is only seven miles removed, is only 573 feet above sea level. The pretty valley in which Lake Chautauqua lies is surrounded by fertile hills with picturesque wooded slopes in which nestle many summer colonies and a few permanent settlements, including those already named and Hartfield, De Wittville and Bemus Point. The latter is at the narrowest part of the lake and is famous in piscatorial circles for the excellence of the muskallonge fishing and the delicious preparation of this fish for the table.

close to the lake, while the town is on top of the hill above and a race would not interfere with the usual occupations of the people. At Jamestown the city could be avoided by constructing a branch leading down to and across the outlet of the lake, at a narrow point and where a pontoon bridge could be used during the day of the race.

Accessibility is one of the chief claims for this proposed circuit, as the lake lies in the direct line of travel between the east and the west and is within easy distance of Pittsburg, Cleveland and Buffalo, besides a score of smaller cities. If a race meet were held early in September the many summer hotels and cottages would be open and could comfortably entertain a large number of visitors, and in Jamestown there are good modern hotels with up-to-date conveniences.

E. R. Thomas, the automobile manufacturer of Buffalo, is one of the enthusiasts over the possibility of making this a circuit of international renown. He has offered to donate a \$1,000 cup when the circuit is completed. Local sentiment is favorable to the automobile and should the road building program be carried out there would be no talk of injunctions and the considerate driver would always be assured of a most cordial and hospitable welcome.

King Edward has selected a chauffeur from the London police force.



LOOKING ACROSS THE PROPOSED CIRCUIT TOWARD THE WATERS OF LAKE CHAUTAUQUA.

Foreign

FRENCH RUNABOUT TRIALS.

Object Is to Stimulate Trade and Head off American Competition.

Special Correspondence.

PARIS, Aug. 11.—In order to encourage efforts in the construction and development of runabouts at popular prices, the Paris newspaper *L'Auto* has created a "Runabouts Cup." The journal points out that all the efforts of French builders have been towards the perfecting of powerful motors and luxurious bodies. Thus four-cylinder, 40-horsepower touring cars have become so numerous that they almost outnumber every other type of car. Efforts have only been made to satisfy the richest class of customers. All this is very unfortunate, says the paper, for the lawyer, the doctor and the business man who have so long been asking for a car suited to their needs—a vehicle of 6 or 8 horsepower, with seats for two; simple, solid and economical—will finally become tired of asking in vain, and will appeal to the foreigner. To quote from the article:

"The American industry has realized this for a long time. It is true that up to the present it has committed more errors than made happy finds. Uncertain of its own destinies, it gropes about, but we may be sure that as soon as it has found its true path it will go forward with rapid strides. Already at the present time certain big firms—Cadillac, for instance—place annually five thousand runabouts in the forty-five states. And Cadillac has begun to deliver in England. It has not yet dared to attack the French market, but that will come if we remain apathetic.

"Only yesterday I received from the National Association a question paper which is very eloquent with regard to the ambitions of Jonathan. Shall I give a few of the most typical sentences?

"What American type is the most popular in France?"

"What is the average price of French runabouts of 6 to 8 horsepower?"

"What is thought generally of the quality of American runabouts compared with those of (a) France, (b) Germany, (c) England?"

"What is the best plan to adopt in order to introduce and establish American runabouts in France? Is it the foundation of branch selling stores or the cession of a selling monopoly at fixed prices among established agents?"

"It is unnecessary to make any comment."

To ward off this "dangerous competitor" the "Runabouts Cup" is created, in order that the attention of builders and the public alike may be drawn to this popular type of car before America becomes established here.

The basis of the competition will be regularity, but speed on both hill and level ground, flexibility, and brake power will not be neglected. The cars entered must have a maximum cylinder capacity of one litre; a chassis weighing between 770 and 1,100 pounds; body work not exceeding 110 pounds, and must carry two passengers weighing each not less than 154 pounds.

The cup will be competed for over a course of 750 miles, to be taken on six days' stages of 125 miles each, the classification being based on (1) regularity, (2) speed in hill climbing, (3) speed on the level, (4) starting power on hills, (5) brake power. An average speed of 12.4 miles an hour will be required. Regularity will be tested by means of timing controls along the course unknown to competitors.

At the commencement of a day's run 200 points will be accorded to each competitor. The average speed per hour between two controls will be taken, and every variation of one kilometer, or fraction of a kilometer, between this and the average speed for the entire journey will entail the loss of one point.

FRENCH TIRE TEST SUGGESTED.

Special Correspondence.

PARIS, Aug. 11.—A novel competition has just been proposed by an ingenious Frenchman. In recent great road races—the French eliminating trials, the Gordon Bennett and the race on the Ardennes Circuit

in particular—it has been found that it was as much a race of tires as of motors; in all cases there were more failures to finish from tire troubles than from mechanical defects. Instead, therefore, of So & So's racing machine running with Blank & Blank's tires it is proposed that the rôle shall be reversed and that the tire makers shall run a race in which they shall use So & So's machine. In other words, there shall be a race of, say, seven or eight hundred miles for tires. The competitor shall have the right to change anything he likes—driver, motor, differential, steering gear—anything or everything except the tires. The first car to arrive would be the winner, as in an ordinary speed race. To give equality there must, of course, be some uniformity of type of car. It is pointed out that the tires would be at the mercy of the driver, for their life can be lengthened or shortened considerably according to whether the car is driven intelligently or recklessly. The same thing applies, however, in present road races.

Report has it that the Sporting Committee of the Automobile Club of France is going to take this matter in hand and work out a perfect competition. As to this, however, one can be reasonably excused for having one's doubts. A competition of this nature has too many difficulties to get beyond the proposition stage.

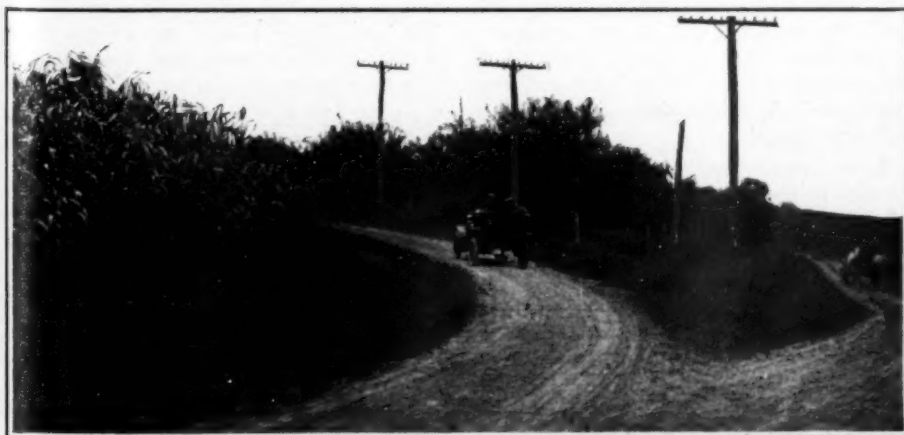
BRITISH AUTO ACTIVITIES.

G. B. Cup Discussion.—Touring Car and Commercial Vehicle Trials.

Special Correspondence.

LONDON, Aug. 11.—The withdrawal of the Automobile Club of Great Britain and Ireland from further participation in the Gordon Bennett contest, reported last week, has not been followed by any explanation from the club as to the reasons influencing its action. The English manufacturers of racing cars do not seem to have been consulted in the matter at all; both S. F. Edge and the Star company are strongly opposed to the change, and wish to be able to compete next year. On the other hand, the Wolseley management entirely agrees with the club, and thinks that the great expense incurred in building and running racing cars is out of all proportion to the benefit accruing therefrom. For this reason the two Wolseleys entered for the Ardennes Circuit race this week were withdrawn at the last moment.

The desire of the A. C. G. B. I. is apparently for an international touring-car contest, something on the lines of the "Tourist Trophy" race—which takes place in the Isle of Man on September 14. The event has been promoted with the object of producing the ideal touring car, and the principal feature is the limitation of the fuel—twenty-five miles per gallon of gasoline being the allotted supply. The weight



BEND IN ROAD WHICH FORMS PART OF PROPOSED CIRCUIT AT LAKE CHAUTAUQUA.

of the chassis is to be between 1,300 and 1,600 pounds.

The popularity of this event may be judged from the fact that more than sixty cars have been entered, including two White steamers and a Cadillac. The route is the same as that for the eliminating trials in May last, the total distance being four laps, or 210 miles.

The discontent occasioned by the 1903 Motorcar Act has caused the appointment of a Royal Commission, which will thoroughly inquire into the working of the motor laws. A report will be made as to what changes in the law are necessary, and motorists on this side are convinced that the result will be greatly beneficial to the industry. The Automobile Club and Motor Union are busy collecting evidence of police persecution and other injustices, and will make out a good case for themselves.

The Duke of Connaught has just purchased a 30-horsepower six-cylinder Napier, his previous car being a Napier of the same type—the first six-cylinder built. Prince Arthur of Connaught has also purchased a car, and the automobile fever seems to be spreading in the royal family with great rapidity.

General Booth, the great Salvationist, has commenced a big tour through England, visiting most of the large towns on his way. As on his previous tour, the General is solely using the automobile for the transport of himself and his staff, and eight cars have been chartered, mostly 15-horsepower Corré cars, with De Dion engines.

Trials on a large scale for the lighter classes of motor delivery vans and carriers are being organized by the Automobile Club, and will be held in October. Vans for 5-cwt., 10-cwt., 20-cwt. and 30-cwt. loads will be thoroughly tested by the trials, extending over 30 days and 2,000 miles of road. These trials will undoubtedly be of great practical value to the numerous trades that are considering how best to cheapen and quicken their modes of transport. A good representative list of entries has been already received, and the list closes on August 23.

The eliminating trials for the race for the British International Cup for motorboats were held in the Solent on August 1. Out of the six starters only *Napier II* finished the course, the other five boats experiencing various troubles which prevented them finishing. Accordingly *Napier II* has been selected as the first English representative in the race, and the other two representatives will be selected on the results of a second trial which is being held to-day. The Motor Yacht Club's motorboat reliability trials were spoiled by the bad weather on the second day. Out of thirty-seven competitors, nine made non-stops over the two days' course, while five had to retire owing to the rough weather. The trials were, however, a great success, and the awards will be announced later.

Killing International Races.

Special Correspondence.

PARIS, Aug. 12.—The decision of the Automobile Club of Great Britain and Ireland not to compete for the James Gordon Bennett Cup next year has occasioned some surprise here, in view of the fact that England led the organized resistance last year against France's endeavors to kill the Gordon Bennett race. It would seem that the cup will now die a natural death, for Germany is little inclined to compete, being fully engaged in organizing its own event, and France's intention to abstain is well known. It is pointed out in official circles that America and Italy are the only two possible competitors; that the former is content with its Vanderbilt Cup race, and if the latter should accept the cup and organize next year's race the absence of foreign competitors would rob the event of all value. "The cup is now dead and buried," say the French leaders. "Let us now set to work to organize our Grand Prix for 1906."

The statement in a recent issue of the Paris edition of the *New York Herald* that France wishes to abstain from the Vanderbilt Cup race on account of the expense is strongly repudiated by the Parisian press and local automobile authorities. They declare that money matters would not prevent such firms as Richard Brasier, Darracq, Panhard or De Dietrich from crossing the Atlantic. If they do not compete it will not be because of the cost, but in order not to create another situation like the Gordon Bennett difficulty. In any case they would never accept the financial help which the *Herald* declares American sportsmen are ready to offer in order to tempt them to compete.

A meeting of the race committee of the Automobile Club of France is soon to be held to make a final disposition of the matter.

Foreign News Notes.

The Society of British Motor Traders and Manufacturers has held its first ballot for space and position at Olympia for its international show in November next, a full month earlier than the Paris Salon. The number of stands dealt with was 165, and the total amount of space allotted 100,000 square feet, or three-quarters of all the available space. The leading Continental and American firms intend being well represented.

A motor omnibus, designed and constructed by the London firm of Thornycroft, is being experimented with in Rome. Should it meet with public patronage, additional buses will be ordered.

The British Royal Commission to investigate the working of the motor car act of 1903, which expires next year, has now been appointed. It consists of Viscount Selby, better known as Mr. Gully, late speaker of the House of Commons, as Chairman, with the Marquis of Winchester, Sir William

Forwood, Mr. Henry (Chief Commissioner of Metropolitan Police) and Mr. Muir (Scotland), as commissioners, together with representatives of the local government board and Ireland.

President Loubet, of France, who intends shortly to withdraw from public life, has just become possessed of a very handsome 25-horsepower C. G. V. car, which he intends using first at his hunting seat, Rambouillet.

A net profit of 150,000 marks (\$37,500) has accrued as the result of the automobile show in Berlin last February, a fact that has greatly cheered the hearts of the promoting societies and swelled their coffers in no slight measure.

The Italian A. C. has received an invitation from the minister of war to place as many cars, not below 12-horsepower, as possible at his disposal for the Italian Grand Manoeuvres in the Abruzzes from August 20 to 31. The owner or driver will receive ten lire per diem, whether the car is used or not, and the mechanic or second assistant five lire. Besides this, a certain payment will be made for the wear and tear of the tires.

The full programme of the Brescia week has been published and contains the following events: September 3, finish of the motorcyclists' 1,000-kilometer race for the Brescia prize; September 4, 5 and 6, heavy van and wagon competition; September 7, power boat races on the Garda Lake; September 8, Benaco power boat races; September 9, weighing in of the racing cars; September 10, Brescia circuit for racing cars, Brescia-Cormona-Mantua and back four rounds for the Florio prize.

The British Motor-Boat Club held on August 7 its forty-mile race for the "Entente Cordiale" cup, presented to it by Mrs. Walker Munro, on the occasion of the French squadron's visit to English waters. The contest developed on purely English lines, as *Trèfle-à-Quatre* and *Dubonnet II* failed to materialize. Of other English entries neither *Competitor* (formerly *Napier Minor*, but now fitted with a 100-horsepower Siddeley engine) nor *Hutton I* turned up. The start took place from a line between the British and French fleets, *Brooke I*, of 300-horsepower, finishing first in 1 hour 18 minutes 21 3-5 seconds, but as a wrong course was taken for the last leg the cup went to the second boat, *Napier II*, steered by John Scott Montagu and Lionel de Rothschild, in 1:29:53 4-5. Lord Howard de Walden's *Napier* was third, in 1:42 45 2-5.

A huge indemnity has been awarded a French carpenter who was run over by a car belonging to the son of the celebrated French actor, M. Constant Coquelin. The car was driven by Jean Coquelin's chauffeur, but the owner was held responsible for damages amounting to \$7,200 and a fine of \$800.

WEBB JAY SERIOUSLY INJURED AT BUFFALO.

Two-Days' Race Meet at Kenilworth Track Marred by Accident to Well-known Driver—Ideal Weather and Large Attendance Make Meeting Otherwise Successful.

Special Correspondence.

BUFFALO, N. Y., Aug. 19.—Aside from the terrible accident which befell Webb Jay, the second annual race meet of the Buffalo Automobile Racing Association yesterday and to-day, was a success in every particular. The weather conditions were the best, the crowds were about the largest ever seen at Kenilworth Park, and the enthusiasm manifested has seldom been equaled here.

Jay's accident was the one happening that marred the meeting, and this occurred Friday afternoon in the fourth mile of the ten-mile free-for-all, when Jay, Lyttle and Burman were on the track. On the back stretch Jay was seen to become enveloped in a cloud of dust from the cars ahead. When this cleared, neither he nor his car could be seen, but a long gap in the fence told the story—the car had crashed through the fence and rolled down the embankment beyond. Some boys who happened to be near the scene of the accident rushed to the spot, and found Jay unconscious and covered with mud and water, while his machine was submerged in the muddy water nearby. An ambulance at the track was hurried to him, and he was taken to the German Hospital, where it was found that he had sustained fractures of the left forearm, several ribs on the left side, and also of the left thigh. His left lung was punctured, and there was a possible fracture of the skull. As soon as it was known that an accident had occurred, the grandstand was immediately in an uproar; spectators rushed onto the tracks despite the fact that Lyttle and Burman were still running, unaware of Jay's mishap. The race was finally stopped in the seventh mile, Burman having covered this distance in 7:15.

Barney Oldfield did not participate in the events on Friday, but gave a five-mile exhibition in his *Green Dragon*, breaking his former record for this track. He covered the distance in 4:41 3-5. Last year's record was 4:52 flat.

The first event of Friday's meet was a two-mile motorcycle race, which was won by Leonard M. Gard, with William Chadeayne second, and George Roessler third. Time, 3:16.

Herbert Lyttle, Pope-Toledo, and Fred Tone, Marion, made a pretty race out of the second event, five miles for cars under 1,432 pounds. Lyttle was in the lead for two miles, when Tone closed up. The finish was exciting, Lyttle winning by fifteen yards. Time, 5:34.

The third event, two heats of the five-mile open Buffalo Derby, for a prize of \$500, cash or plate, came next. Webb Jay

and Charles Burman started in the first heat. Burman shot ahead and kept the lead for three miles, fully a quarter of a mile in front of Jay. It looked defeat for Webb, but in the last mile he forged to the front and won by twenty yards. Time, 5:09 3-5.

In the second heat Herbert Lyttle's car went wrong and he was compelled to retire after having the race practically won. Montague Roberts, in Harry Houpt's Thomas racer, won the heat in 5:27.

In the five-mile open for stripped cars, George Salzman, Thomas; Fred Tone, Marion, and Herbert Lyttle, in a Pope-Toledo, were the contestants. Lyttle won from Salzman by twenty yards. Time, 5:24 4-5.

A much larger crowd appeared at the track to-day. The opening event, a two-mile motorcycle race, was won by Robert H. Gard, a brother of the winner on Friday. Time, 3:05.

Herbert Lyttle next came on the track to give a five-mile exhibition. His car, how-

such clouds of dust that Oldfield took no chances and was readily beaten by his opponent.

The following are the summaries:

FRIDAY, AUGUST 18.

Two-mile motorcycle race.—Won by Louis M. Gard; William Chadeayne, second; Chas. Lang, third. Time, 3:16.

Five miles for cars weighing less than 1,432 pounds.—Won by Herbert Lyttle; Fred Vane, second. Time, 5:34.

Five miles, free-for-all, Buffalo Derby.—First heat, won by Webb Jay; Charles Burman, second. Time, 5:09 3-5. Second heat, won by M. Roberts; Herbert Lyttle, second. Time, 5:27.

Five miles for stripped touring cars.—Won by Herbert Lyttle; George Salzman, second; Fred Tone, third. Time, 5:19.

Five-mile exhibition.—Barney Oldfield. Time, 4:41 3-5.

Ten miles, free-for-all.—Stopped on account of accident to Webb Jay, Burman finishing seven miles in 7:15.

SATURDAY, AUGUST 19.

Two-mile motorcycle race.—Won by Robert H. Gard. Time, 3:05.



JAY'S WHITE STEAM RACER IMMEDIATELY AFTER ACCIDENT AT BUFFALO RACES.

ever, was not in good order; time, 5:32 1-5, nearly fifty seconds poorer than Oldfield's time on Friday. Lyttle gave the exhibition because the Buffalo owners' handicap was called off for lack of entries.

The three-mile novelty race for fully equipped touring cars, carrying driver and three passengers, was amusing. Charles Soules won the race, as George Salzman and R. Magoon did not comply with the conditions of the contest. Time, 4:47.

The five-mile national championship brought out Barney Oldfield, M. Roberts and Herbert Lyttle. There was a false start, Oldfield and Roberts going three miles before they were flagged. The next start gave Oldfield a fine position and good advantage. He went to the front, followed by Lyttle, and then by Roberts. Roberts, in the Thomas racer, appeared not to have a chance, but he stuck to his post and caught Lyttle, who retired in the fourth mile. Oldfield won in 4:52 3-5.

The Diamond Cup race furnished the surprise of the day. It was fully expected Oldfield would win. Lyttle qualified in the first heat, and Oldfield in the second. In the final Lyttle went to the front and raised

Five-mile exhibition.—Herbert Lyttle. Time, 5:32 1-5.

Three-mile novelty race, for touring cars.—Won by Charles Soules. No second; Salzman and Magoon failed to stop on second lap. Time, 4:47.

Five miles, national championship.—Won by Oldfield; M. Roberts, second; Time, 4:52 3-5.

Five miles, for touring cars.—Won by George Salzman; Charles Soules, second; R. H. Magoon, third. Time, 6:06 2-5.

Ten miles, final Buffalo Derby.—Won by Charles Burman; M. Roberts, second. Time, 10:38.

Five miles, free-for-all, Diamond Cup race.—First heat, won by Herbert Lyttle; M. Roberts, second; Time, 5:04 3-5. Second heat, won by Oldfield; Charles Burman, second. Time, 5:27. Final, won by Herbert Lyttle; Oldfield, second. Time, 4:52.

Universal joints have a great deal of hard work to do, and should therefore be given the best possible care. Above all, they should be kept thoroughly lubricated at all times, and the protection from dust should be as nearly perfect as possible.

More automobiles are to be seen upon the streets of this city than any other town of its size in the Pacific Northwest.—*Pendleton (Ore.) Tribune.*

A Judicial View of the Automobile.

IN the multitude of opinions, official and unofficial, expressed about automobiles, so rare is an utterance that combines judicial learning and sound common sense that the Automobile Club of America has taken occasion to record in a pamphlet for distribution, a decision rendered by City Judge Nicholas C. Downs, of Stamford, Conn. This has been put out by the Club in the form of a pamphlet containing the decision made in the case of Harry P. Stevens, who was defended by A. E. Ommen, special counsel for the Automobile Club of America. The decision of the Court reads as follows:

MEMORANDUM OF DECISION.

This is a prosecution for a violation of Section 2089 of the general statutes as amended by Chapter 108 of the Public Acts of 1903, the controlling provisions of which, in so far as the present case is effected, are as follows: "No motor vehicle shall be run on any highway or public place at a rate of speed dangerous to life and property, or on any highway or public place outside the limits of the city or borough at a rate of speed to exceed fifteen miles an hour, or on any highway or public place within the limits of any city or borough at a rate of speed to exceed twelve miles an hour."

It has been claimed that the construction of the statute and the method of its enforcement adopted in this city has resulted in unnecessary interference with tourists, and the extended discussion which occurred upon the trial of this case has led me to give the whole subject a careful examination.

It is apparent that the purpose of this statute is to prevent the running of motor vehicles in such a manner as to endanger persons or property, and that the prescribed limitation of speed was intended principally as a means to this end. The legislature has no authority to regulate the conduct of individuals except in the interest of preserving the peace, health, safety and good morals of the community and the right of life, liberty and property. Hence, the law does not concern itself with the rate of speed of vehicles in highways and other public places except some regulation be required to protect persons and property. Whether in a given instance a vehicle is being run in violation of this principle may not be determined by the rate of speed alone. To attempt to run a vehicle through a crowded thoroughfare at even a slower rate of speed than the minimum prescribed by the statute, if, because of the conditions existing at the moment, such attempt endangers life, limb or property, is a violation of the statute, and may be a more serious and flagrant violation than to run at a rate of speed exceeding the statutory limit along a road which the driver can plainly see is so free from travellers or intersecting streets or private ways as to

preclude the possibility of a collision. The latter case presents a mere technical offense, while in the former there would be a disregard of the rights of others which would constitute a wrong *per se*, even though the present statute did not exist, and any person injured might maintain an action of tort against the wrongdoer.

The statute in question is a salutary one and should be enforced, but its enforcement should be marked by the exercise of good sense and a sound discretion, and more heed should be given to the manifest object of the enactment than its mere letter in the fixing of a minimum limit of speed. Severe penalties should be imposed only in cases wherein the evidence shows that the spirit of the law has been violated.

The automobile, like many other innovations upon established methods or conditions, has many opponents. And I have no doubt that such opposition is due in no small degree to the misconduct of a considerable percentage of automobilists who habitually violate the law of the road and in many ways evince an utter disregard of the rights of others. And while to the extent that as members of a class the innocent may suffer with the guilty in the reputation thus established, no such sentiment has any place in a judicial proceeding. Every defendant is entitled to be judged according to his own conduct without reference to the misdeeds of others. The trolley car was at one time quite generally regarded as an unwarranted encroachment upon the rights of the public in the highway, and while its high rate of speed results in many deaths and accidents of less serious nature, its great utility has gradually induced a change in the sentiment which once existed against it, so that at the present time complaints are rarely heard, although cars are continually running through the streets of this and nearly every other community at a rate of speed in excess of the statutory limit.

By city ordinance, the speed of vehicles drawn by horses is limited to six miles per hour, and although this speed is exceeded in numerous instances each day, prosecutions are never instituted unless the fast driving is accompanied by recklessness or disregard of the rights of others.

The owners of automobiles are entitled to no greater immunity from statutory restrictions than any other class of individuals, neither are they properly to be regarded as the objects of greater severity or strictness.

These vehicles have come into very general use, and their use is no longer restricted by reason of expense to persons of large means. In addition to their quite general use as a means of recreation, motor vehicles of various kinds are being substituted in place of delivery wagons and trucks drawn by horses. A vast amount of capital is

represented in their ownership and the industry which their manufacture has brought into existence is a large and important one.

While running at the rate of speed shown in the cases which have come before this court, an automobile can be stopped in less than two seconds and within a distance very little in excess of its own length.

Among the offenders against this statute we find persons whose character as law-abiding citizens, having a due regard for the rights of others, is well established.

These considerations logically lead one to the conclusion that in these cases we are not dealing with a criminal class nor with a great evil which is to be stamped out by making an example of the first offender we may happen to catch regardless of the gravity of the case.

Of a large number of cases which have been brought before me, there has not been a single instance of recklessness, but in every case it has been shown that the vehicle was in the hands of a competent person paying strict attention to his duty and having his machine under perfect control. There has been no prosecution for violation of the speed limit in any of the principal or much frequented streets in the center of the city.

In the case at bar, the machine was going at the rate of about eighteen miles per hour over a portion of Main street between the eastern slope of Clark's Hill and the railroad crossing. It was being run by an experienced and competent chauffeur under direction of its owner who had provided the most approved type of speedometer, and both the owner and the chauffeur testified that they were endeavoring to keep within a ten-mile limit, as indicated by the speedometer, while passing through Stamford, believing that to be the law in Connecticut. There was no apparent danger to person or property. The policeman on duty at the place in question timed the speed of the car over one-eighth of a mile, and upon finding it to be as above stated, arrested the chauffeur. I believe this method of ascertaining the rate of speed to be more reliable than the use of the speedometer; in fact, with a good watch (as the one in question was shown to be), there would be no reason why the exact speed could not be ascertained, and I find, therefore, that the defendant exceeded the statutory speed limit. But the evidence shows that the owner of this car, by instructions to his chauffeur, by watching the speedometer and by his conduct generally, was endeavoring to obey the law, and was careful to a greater degree than the defendant in any of the other cases I have heard. His offense, therefore, was merely technical and only a nominal fine should be imposed. The defendant is fined one dollar.

A shaft which has a little play owing to a slightly worn bearing acts as a hammer to increase the play. Moral, take up looseness as often as it appears, without waiting for it to get serious.

Letter Box

How to Determine Short Circuits.

Editor THE AUTOMOBILE:

[248].—My car has two separate storage batteries—No. 1 and No. 2—with one joint wire connected with binding posts on each separate battery and two independent wires, one connected with each of the other poles of its respective battery. On No. 1 I had sufficient current to produce a good spark, but No. 2 was run down. I took out No. 2 without disturbing the wires to No. 1, and connected up the new No. 2 battery, which worked all right. On trying again original No. 1, I could get no spark. I then disconnected the joint wire from its terminal on the new battery No. 2, and still could get no spark. Then I shifted the wires on No. 1 to the other poles and got good sparks on both batteries.

Someone has told me that I must have a short-circuited battery, but how could this account for original No. 1 working all right until I coupled on the new battery No. 2? If there is a short circuit of the batteries, how am I to ascertain the trouble and correct it?

Could you also refer me to any practical treatise which will inform an automobilist in some sensible manner on the every-day questions that are liable to come up in connection with the electrical system of an ordinary automobile? I do not want a scientific book, but merely answers to such questions as I have outlined here, including further, how to locate a short circuit, or grounding on either the primary or secondary wiring?

Since installing my two batteries as above stated, I have had better firing than ever before on both.

J. E. R.

New York City.

You can determine whether or not the batteries are short-circuited by connecting an ammeter in series between them. If the ammeter shows current when the switch is open, then clearly there is a leak or short circuit.

A simpler, though not such a reliable way, is to disconnect at one end the "common" wire which couples both batteries, and if a spark is produced when the free end of this wire is snapped against the binding post of the other battery it shows that current is flowing and indicates a short circuit, providing the switch is open, as before.

As in almost all ignition systems a wire is used for one side of the circuit and the metal of the machine for the other side, a "ground" and "short circuit" mean practically the same thing, when applied to the wiring. When a short circuit exists in the primary it results in the production of a weak spark at the secondary. It may also be detected by the feeble action of the trembler even when the coil is operated by a powerful battery. A bad short circuit in

the primary will heat the coil and melt the insulation. It will also run the battery down very quickly.

A short circuit in the secondary will result in a weak spark, even with a strong battery and with the trembler functioning properly. If there is a "dead short" in the secondary, no spark will be produced when the trembler is in operation. In short, the action of the trembler is the test for primary "shorts," and the spark itself—its condition or its absence—the test for secondary "shorts."

In making the afore-mentioned tests on the coil, care should be taken that the wiring external to the coil is in perfect order, otherwise the results may be misleading. It is evident that on coils which have "mechanical" tremblers all of these tests cannot be made. In the latter type of coil a "short" in the primary may be detected by an abnormally large spark at the contact points and a small one on the secondary wire. Secondary "shorts" are located in the same way in both types of coils.

To Stop Missing of Explosions.

Editor THE AUTOMOBILE:

[249].—Relative to a balky motor, I have tried all your published suggestions and have failed to get any results. I have a 12-h. p. single-cylinder runabout. When the car is at a standstill, the motor will run smoothly and without a skip; but when it is in motion the engine skips and causes a pound, the machine jumping ahead at every explosion. I have tried everything—new plugs, batteries, and when I test the ignition I get a good spark. I do not know what the trouble is. The machine, when in motion, will not run more than five or six revolutions without a jumping motion.

Any information you can give me on this matter will be greatly appreciated.

Norwich, Conn.

L. F. J.

Your trouble is evidently in the carburation, as you say you get a good spark. The gasoline passages may be partially choked, so that sufficient gasoline is not supplied to form an explosive mixture when the throttle is wide open; yet the motor will run steadily on a nearly closed throttle, as the demand for fuel is then much less than on a wide open throttle.

See that the gasoline piping is clear from the tank to the nozzle in the carbureter, and that gasoline flows freely from the latter when the float is held down.

Assure yourself that both inlet and exhaust valves work freely in their guides, and that the springs on both valves are of the proper tension. Try coupling four storage cells in series, so as to get about six volts on your coil, and note the effect. Your "good spark" may not be good enough to ignite the charge under high compression, although it may do so under low compression, such as you get with partially closed throttle.

Your new plugs may be defective; may have cracked or "porous" porcelains. Use the very best plugs you can purchase. Examine your ignition advance mechanism and see that it works freely and is thoroughly lubricated with thin oil. Be sure that the make-and-break device on the cam shaft has its platinum points clean, and that they make firm contact at the proper time.

Do all this and let us hear from you as to the results.

Connecting Up the Spark Coil.

Editor THE AUTOMOBILE:

[250].—I note your reply to No. 247 concerning changing coil connections.

While in the main it does not make any difference as to the poles of the battery which go to the coil or the ground, yet with certain makes of coils there is a decided difference in battery economy. This is the case with certain foreign coils in which all connections are plainly marked, and which are noted for their economy of battery consumption.

While the coil would apparently work all right if connected up opposite to the way it was marked, yet if connected as marked the battery would give almost twice as much mileage as in the former case. I have never had a satisfactory explanation of this phenomenon. I have heard two theories advanced, however. One was that there were some connections between the primary, secondary and condenser, so arranged that the battery current either helped or hindered the secondary, according to its direction. The second was that owing to residual magnetism of the core it would more readily become demagnetized if the current flowed in one direction rather than in another, thus tending to make a better spark.

I make no comment on either of these theories, but give them for what they are worth.

HAROLD H. BROWN.

Boston, Mass.

We would like to hear from other correspondents on this interesting topic.

New York Liberal—Jersey?

Editor THE AUTOMOBILE:

[251].—Some time ago the New York *Herald* published an article, giving the license laws of all the states in regard to automobiles. Referring to New Jersey, the article said a resident of New Jersey could drive his car through New York state provided he complied with the laws of his own state in regard to license and displayed his state initials—"N. J."

As a subscriber, I ask that you kindly advise if I can run through New York state as above stated, without procuring a New York state license?

A. W. P.

New Brunswick, N. J.

In answer to your inquiry regarding the operation of the New York license law, if you are registered in New Jersey, and

your car is properly labeled, you would be at liberty to go anywhere you please in New York state without having to procure a license in New York. We really do not know why the New York authorities have not exempted New Jersey from this provision, for the reason that New Jersey does not permit New York automobilists to enter the state without getting out a New Jersey license. In fact, any automobilists doing so are open not only to fine, but to imprisonment. However, as you reside on the Jersey side, you will be able to enjoy the liberality of the New York regulations.

Price of Pleasure Vehicles.

Editor THE AUTOMOBILE:

[252.]—I have been informed that a prominent manufacturer intends putting out for 1906 a 10-h. p. runabout to sell for \$400, and a 30-45-h. p. touring car, weighing 1,500 pounds, to sell for \$1,500. In your opinion, will a car of this horsepower and such light weight give satisfactory service over our roads? And further, if this manufacturer does as above stated, won't it upset present prices, and force all the manufacturers to lower their prices very materially? H. W. W.

Atlanta, Ga.

We have already discussed the subject in our editorial pages. We would not undertake to pass an opinion upon a car we had never seen. We do not know of any manufacturer who is in business for his health, and no doubt such machines, if built, will be marketed for what they are worth. You can buy an ordinary suit of clothes in New York city at any price from \$10 to \$80 and get value received, no matter what the price may be.

Our own belief is that the price tendency for high-class cars will be upward and not downward.

Solid Tires on a Runabout.

Editor THE AUTOMOBILE:

[253.]—Will you kindly state, through the Letter Box, your opinion as to the advisability of using solid tires instead of pneumatics on an Oldsmobile runabout. I notice several makes of solid tires advertised and wish to know whether they will give the proper resiliency and if they use more motive power. E. P. M.

Zebulon, Ga.

Solid tires do not of course have the same resiliency as pneumatics, since rubber does not possess equal elasticity with air under moderate compression. While there has been a great improvement in solid tires in the last few years, and they are giving satisfaction on heavy automobile trucks, electric cabs and coaches, and even on gasoline stages used on country roads, they are not recommended for use on light runabouts, even by the makers who manufacture them.

Vehicles to be fitted with solid tires are built especially heavy, particularly in the axles, steering knuckles, springs and bearings, which are subject to injury by shocks from the road surface. With solid tires, which must be made stiff enough to resist the crushing effect of driving over loose stones on the road, there is an incessant pounding or hammering effect on the running gear of the car, which is greatly intensified when fast driving is indulged in, as is apt to be the case with a pleasure vehicle geared to the maximum of its power, and this is likely to result in bent axles, broken balls or cones in the bearings, and in breakages of knuckles and axle stubs due to crystallization of the metal.

There would, of course, be a greater loss of power with solid tires than with pneumatics, particularly on rough roads.

If you are having an unusual amount of tire trouble you would better change your rims or wheels so as to fit tires of larger size which are stronger and are less liable to puncture owing to their thicker tread; or, if you do not care to go to this expense, you may find that puncture proof pneumatic tires will give satisfaction if you are careful not to do much fast driving.

Lost and Found.

Editor THE AUTOMOBILE:

[254.]—On the highway between Ft. Plain and St. Johnsville, N. Y., I picked up a large number card, bearing the number "11961 N. J." The owner of this card is welcome to same, if he will call for it.

A. A. MILLER.

Ft. Plain, N. Y.

Size of Muffler.

Editor THE AUTOMOBILE:

[255.]—What is the proper size of muffler to be used on a four-cylinder touring car, the cylinder dimensions being 4 1-2 inches bore and 5 inches stroke?

E. W. B.

Warren, O.

Mufflers are made in so many different shapes and differ so much in their internal arrangement that a direct answer to your question is impossible unless some particular make of muffler is specified. In such case the maker of the muffler would naturally know more about the size that should be used than anyone else.

Michigan Farmer Enthusiast.

Editor THE AUTOMOBILE:

[256.]—An article in your issue of August 3 states that Muncie, Ind., with a population of 30,000, has over 100 automobiles.

Coldwater, Mich., with a population of about 6,000, has over fifty cars. While southern Michigan is noted for miserable roads, new cars are constantly appearing.

In driving my touring car from Clear

Lake, Ind., Sunday, a distance of fifteen miles, I saw five other machines on the road. As I am just an ordinary farmer, and the only one in these parts that owns a car, I am considered "a freak," but think I get a much enjoyment out of it as any of my "city cousins."

CHAS. W. ABBOTT.

Reading, Mich.

NEW LITERATURE.

A new edition of the work entitled "Automobile Laws" has been printed by the Automobile Club of America under the supervision of William W. Niles, counsellor-at-law to the club. This is a paper-covered volume, 7 by 10, and containing 175 pages. It contains an exact transcription of every American state law now on the statute books, and an alphabetical index of states with an excellent list of numbered references to the subdivisions of each law. Following is the legal situation in the United States as disclosed by the work:

States in which laws have been passed: Alabama, California, Connecticut, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania (new law takes effect January 1, 1906), Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Washington, West Virginia, Wisconsin.

States in which the legislatures have not passed any automobile laws: Arkansas, Colorado, Georgia, Idaho, Louisiana, Mississippi, Nevada, Texas, Utah, Wyoming.

North Carolina has passed a law authorizing the county commissioners to pass speed ordinances, and exempting New Hanover and Mecklenburg counties from its provisions.

The Krieger electric automobiles, made by one of the pioneer French firms in its line, embody a well-thought-out method for allowing the use of driving gears of various sizes. Cast integral with the body of the electric motor is a stout arm, long enough to reach to the driven axle of the car. At the end of this arm is formed a large ring, split at one side and fitted with a pinching screw. Inside the ring is an eccentric which is mounted on the axle so that it is permitted to turn but is prevented from moving along the axle by collars. When the eccentric is turned, the distance between the motor and the axle is, of course, varied according to the position of the eccentric.

When it is desired to insert a new set of gears of sizes different from those previously used, the pinching screw is loosened and the eccentric turned until the distance between the motor and the axle is just sufficient to mesh the gears properly. When the ring is tightened on the eccentric, the whole arm is, in effect, solid.

Patents

Wheel Rim.

No. 796,873.—F. A. Seiberling, of Akron, Ohio.

The Goodyear "universal rim," having the retaining strips 66 so formed as to be adapted, by reversing them, to hold either



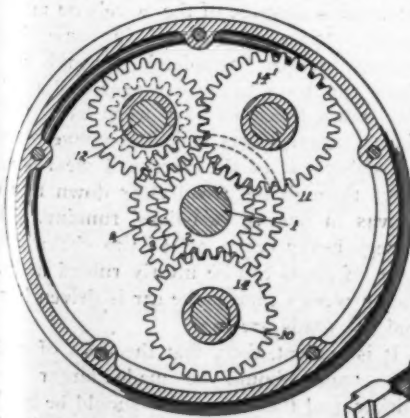
SEIBERLING WHEEL RIM.

the regular clincher tire or the special form of tire shown in the right-hand view.

Planetary Gear.

No. 795,819.—H. K. Cowen, of Chicago, Ill.

Three forward speeds and one reverse are obtained, with but a single friction band, and no clutch. This result is accomplished by allotting only a single pair of planetary pinions to each forward speed, instead of two or three, equally spaced around the circle, as is customary, and by making each planetary pinion separate from the other planetary pinion of the same speed, so that it turns independently of it until the two are engaged by a claw coupling operated by suitable controlling mechanism. The effect of this is to render all the planetary pinions inoperative so far as transmission of power is concerned, except the pair which may be clutched together. Again, the direct drive is obtained by clutching simultaneously the pinions for the high and intermediate speeds, thus locking them and preventing relative movement so that the whole system turns as a unit. The details of the system are seen in the drawings, in which 1 is the driving shaft, having keyed thereon the pinion 2. The pinions 3 and 4 are connected together and sleeved



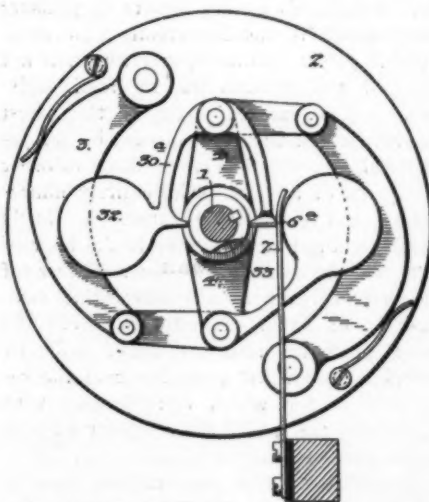
COWEN PLANETARY GEAR.

on the shaft with the driving sprocket 24 secured to them. The split housing 5 is sleeved on 3 at one end, and on the shaft at the other, and carries the three shafts 10, 11 and 12, on which the planetary pinions are sleeved. These pinions, as for example 14 and 18, are normally separated by the compression springs 22, and engage each other by the clutch teeth 17 19 when pressed together. The necessary pressure is applied to the pinions 14, etc., by the cam ring 28, which has teeth and notches acting on the sliding pieces 27, each of which has a pivot bearing in the plate 16 screwed into the end of 14. The pinions on shaft 10 give the intermediate speed, those on 11 the slow speed, and those on 12 the reverse movement through the intermediary of the gear 14.

Automatic Spark Timer.

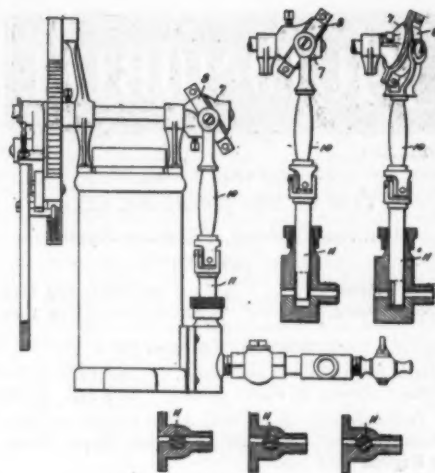
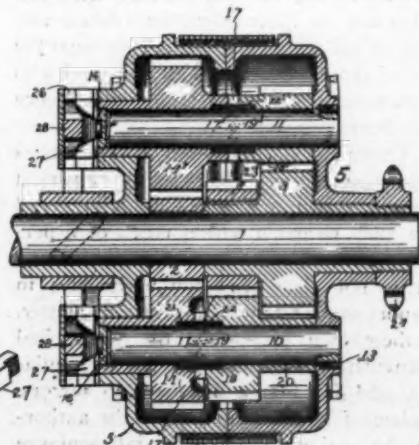
No. 796,730.—T. B. Jeffery, of Kenosha, Wis.

In this device the spark time is automatically determined by the speed of the



JEFFERY AUTOMATIC SPARK TIMER.

motor, and when the speed exceeds a predetermined limit the contact is automatically interrupted, so that the motor necessarily slows down. In the drawing 7 is the fixed contact blade, and all the other mech-



KIPP MECHANICAL LUBRICATOR.

anism—disc 2, centrifugal weights 3, rocking arms 4, etc.—revolve with the shaft 1. The contact is made between 7 and the toe 6a of the bent lever 30. Assuming the rotation to be in a clockwise direction, the expansion of 33 rocks 44 in the same direction till 6a reaches the notch 33, into which it is carried by the centrifugal action of 32, thus failing to make contact with 7.

Mechanical Lubricator.

No. 796,659.—O. G. Kipp, of Madison, Wis.

A lubricator in which the pump plunger is made to act as a valve, and, in order to avoid the necessity for a stroke longer than would be required simply to pump the oil, the plunger is made to rotate at the top and bottom of its stroke, thus supplying the valve movement. The combined axial and rotative movement is imparted by the tilted eccentric 7, which works in a strap 8 connected by trunnions with the pitman 10 and plunger 11. The base of the plunger is slotted as shown in the inverted detail, and the sections show how it acts as a valve.

Power Air Pump.

No. 796,449.—S. N. Rapp, of Detroit, Mich.

A gear-driven pump designed for installation in an automobile, and having its crankshaft, on which the gear is keyed, mounted in a slide which can be shifted to engage the gear with the driving pinion, or disengage it as desired.

Battery Holder.

No. 796,517.—F. Jackson, of Denver, Col.

A box for holding dry batteries. It has brass spring clips at top and bottom for engaging and holding the zinc shell and the carbon respectively, and the clips are suitably connected so that wires are not required.

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Decline of

Track Racing.

The horrible accident to Webb Jay, driver of the White steam racing car at the recent Buffalo meeting, coming so soon after severe accidents to other well-known drivers on the track, has solidified public sentiment against track racing. For some time past track racing has been slowly dying from a complication of organic diseases, and influences from the outside, among them the series of accidents referred to, have recently hastened dissolution.

Already in the metropolitan district of New York track racing is practically dead, for the good and sufficient reason that it does not pay the promoters. Aside from and above all financial considerations, however, track racing has reached a point where participation in it by fast machines is simply gambling with fate, with the chances against man and machine. The physical limit of safety has been reached and overpassed. In the combination of track and machines the former is a constant and the latter a variable. The value of the constant on the side of safety is practically unchangeable, while the speed possibilities of the machine vary in an ever-increasing ratio. The result is just the same as would be obtained by the employment in a machine of a structural member of fixed section and strength of material to which constantly increasing stresses would be applied—the result could only be fracture. And when (in track racing) to the exact laws

of natural forces are added such uncertainties as dust obscuring the vision of the driver and the recklessness often occasioned by close competition, which are always represented by a plus sign, the result is a very simple equation—with death, possibly, as the solution.

Commercially—for practically all automobile racing the world over is commercial—track racing has always seemed to us a failure. The public has long since associated winning with special construction, and does not see in phenomenal speed on boulevard surfaces any close relation to reliability on common roads, and American roads at that. Road racing is a measure of all 'round value that track racing could never become, and development in this direction would be a beneficial growth out of the debris of the purely adventitious system of racing on horse-trotting tracks.

Needless Fatality.

The untimely death of Vinson Walsh, a school-boy, at Newport last week, adds another name to the growing list of fatalities among drivers of pleasure cars, which is steadily creating an unfavorable public sentiment, and which, if not checked, will probably lead to drastic legislation. The saddest phase of this latest fatality, which was accompanied by serious physical injury and nervous shock to other occupants of the car, is its entirely unnecessary and preventable cause. Untimely death coming to a loved one in the hour of duty or in spite of all the resources of modern medicine in an unavoidable sickness is an awful calamity that even the most profound religious belief fails to reconcile, and when a death occurs the responsibility for which rests largely with those who are spared the resultant anguish is too great for contemplation.

According to the most reliable reports, the youth who was killed had a mania for speeding that was aided, not checked, by his family, which allowed him the possession of a powerful car as a plaything—a car that was possessed of potential energy equivalent to the effort which would be expended in raising a weight of 660 tons one foot in one minute. Armed with this instrument of destruction, he rushed violently to his death, and put in dire peril the lives of those who rode with him, and who might have exercised a restraining influence upon the rash youth.

A driver can display homicidal tendencies with a powerful car just as another person may with a gun or a knife—yet who would place such weapons within reach of a person so afflicted?

It is not clear that the authorities in Newport are without blame in this matter. By their own admission, the youth had persistently disregarded the speed regulations, and for him a fine had no terrors. The law of Rhode Island gives the authorities the option to impose a jail sentence on conviction. To a youth of the social

standing of Vinson Walsh the warning that a few days of reflection within a prison's walls would be the penalty for a continuation of his practises would undoubtedly have been sufficient to cause him to hesitate and apply reason in the use of his machine on the public roads.

Leniency is certainly no kindness in such cases, and upon parents and guardians and officials sworn to enforce the law there rests the responsibility of example and direct control that cannot be shirked.

Durability of Attachments.

In all things pertaining to the automobile it has been learned by experience that in the beginning the various parts and fittings were not made heavy enough, or were not made of material strong enough to permit of reasonably light weight. The stresses set up in an automobile are severe almost beyond belief when traveling at high rates of speed over indifferent roads. Though less imperative, there is the same necessity for making attachments substantial as for building essential parts of the car strongly. Mud fenders, lamp brackets, running boards, cyclometers, horns, and all such fittings, must be so made that they can be attached firmly and so that they will not work loose.

One attachment that gives considerable trouble because sufficient care is not taken to fasten it on securely is the license number tag usually suspended from the rear axle. Many of these tags are mere metal plates having two holes punched near the upper corners, through which light wires are run and then twisted around the axle. Needless to say, the constant jolting soon breaks the wire or the holes break out, allowing the tag to drag on the ground suspended by one corner, or to be lost altogether, rendering the driver of the car liable to annoyance from policemen if not arrest and fine, though ignorant of any trespass of the law. While there are, of course, many well-made signs with proper means for suspending them, a very large proportion are defective.

Another attachment that experience has shown should be made of heavy and enduring material is the tire chain, used for preventing slippage of the wheels on muddy roads. Links of such chains have been known to wear completely through in a day's run by a heavy car over bad roads. And when the links have worn badly their sharp, jagged edges and ends gouge pieces of rubber out of the tires and wear large holes through the tread clear down to the canvas in one or two days' running. On a very heavy car a set of tire chains and a set of shoes can be utterly ruined in less than a week's time if the car is driven hard and the roads are bad.

It is evident, then, that the links of such tire chains should be made larger and thicker, and that the chains should be made of a good quality of steel and then hardened so that they will resist wear and pro-

serve their rounded form, which does not cut into the rubber tread of the tires



Co-ordination of Contests. Now that track racing is on the wane, there is a growing tendency toward the holding of "contests" of one sort or another on the part of clubs and promoters. While such contests are entirely praiseworthy and desirable, not only for the purpose of stimulating public interest in the automobile, but as a means of accumulating data which will benefit manufacturer and user, it is imperatively necessary that they shall be conducted in a scientific manner. Good intentions are a poor substitute for technical training and experience, disinterestedly applied in the search for scientific truths. And it is with this slender equipment of intention that some contests have been held in the past and doubtless others will be held in the future.

It is certainly as much a necessity that contests of a technical character shall be held under proper sanction and supervision as it is that race meets shall be regular, especially if the results are to be made public. The public, which includes the possible buyer, is not in a position to judge of the method or manner of conduct of such contests, and is apt to take results which may be highly empirical and misleading as gospel truth. There is now no properly qualified body which sanctions or supervises contests of a purely technical character. The American Automobile Association has control of racing with the consent of the governed, and is apparently the representative body to exercise a supervision in touring events. Yet entirely outside its jurisdiction lies a variety of contests of a more technical character, having for their object, in some cases, not a test of complete cars, but of the durability or efficiency of component parts.

There is certainly an immediate need of control in this broad field. In open competitions this can be exerted by manufacturers lending or withholding their aid, as the circumstances warrant, but they have no such safeguard in the case of private contests such as may now be organized by any club or promoter without restriction. The National Association of Automobile Manufacturers, which seems of late to have drifted into that condition famously described as "innocuous desuetude," could rightfully undertake supervision of such contests; or the Society of Automobile Engineers, which holds a technical position that would give it authority.

It is certainly a subject that will stand discussion among the interested parties with profit to themselves and great benefit to the industry. A proper co-ordination of contests, held under scientifically correct, if not uniform, regulations, would make for progress, which certainly will not follow in the wake of scattered and misdirected effort guided chiefly by good intentions.

AUTOMOBILISTS AT ROAD CONVENTION

Touring Competition in Connection with Annual Meeting of American Road Makers at Port Huron, Michigan, August 29, 30 and 31, to Promote Better Feeling Between Automobilists and Farmers.

Automobilists from all parts of the country have been invited to attend the annual convention of the American Road Makers, to be held at Port Huron, Mich., on August, 29, 30 and 31. This is the first time that an effort has been made to bring the users of automobiles and the farmers and others interested in the improvement of the wagon roads together at a good roads convention, and the plan for harmonizing these usually antagonistic elements is of interest.

Among the committees appointed in connection with the preliminary work of the convention, was an automobile good roads committee, of which George E. Miller, of Detroit, was made chairman. This committee outlined a plan for an automobile touring competition in connection with the meeting, whereby each competitor was to secure from the mayor of his city, the president of his village, or a justice of the peace, a certificate stating the hour of his departure for the convention, and then to drive to Port Huron so as to arrive August 29 or 30. The conditions require that the contestant must drive all the way under his own power, must not have violated any speed ordinance or law, must not have caused any runaway, collided with or run over any man or beast, and, in short, must have traveled in an unobjectionable way through the country. In making out the list of winners, the judges are to take into consideration the make and type of car used, age and experience of the contestant, size of machine, horsepower of engine, number of cylinders, nature of route traversed, distance covered, time consumed, condition of car upon arrival and number of persons carried.

Arrangements have been made for storing 500 automobiles in Port Huron and to serve a 1,000-plate banquet. The certificates borne by the automobilists will constitute their authority to attend the convention and the banquet and to participate in a four-hour boat ride on Lake Huron.

It is planned to give all of the delegates to the convention demonstration rides in autos over both good and bad roads, and, by thus bringing the farmers and law makers into fraternal relations with the automobilist, give each element a better understanding of the sentiments of the others.

The convention was called at Port Huron upon the request of Port Huron township, in which the first good road in Michigan is said to have been built. The request was supported by the state legislature, which by resolution asked the American Road Makers to accede to the request. The delegates will inspect this first good road, which is still in first-class condition, and will be given a practical demonstration in road building on a two-mile stretch of road now being built under the Michigan state reward road law.

Thousands of invitations to attend the convention have been sent out through the invitation committee, which is composed of well-known representatives of national and state highway bureaus and commissions, automobile organizations, farmers' granges, editors and others. Among the speakers who are expected to address the convention are:

Hon. James H. Macdonald, president of the American Road Makers and State High-

way Commissioner for Connecticut; Hon. Fred M. Warner, governor of Michigan; Horatio S. Earle, State Highway Commissioner for Michigan; Provincial Highway Commissioner A. W. Campbell, of Toronto, Canada; Col. Albert A. Pope, president of the New York and Chicago Road Association; W. L. Dickinson, secretary American Road Makers and 2nd vice-pres. New York and Chicago Road Assn.; Hon. George B. Horton, Master of the Michigan State Grange; Hon. A. N. Johnson, of the Office of Road Inquiry at Washington; Hon. W. L. Spoon, of North Carolina; Isaac B. Potter, president of the American Motor League; C. B. Cook, president of the Michigan Association of Farmers' Clubs, and Hon. DeWitt W. Smith, chairman of the Illinois Good Roads Commission.

ILLUMINATED AUTO PARADE.

Thousands Witness Dazzling Procession of Buffalo Automobile Club.

Special Correspondence.

BUFFALO, N. Y., Aug. 19.—It was a pretty spectacle which attracted large crowds to Buffalo's street curbs last Thursday night. The public then witnessed the first illuminated parade of the Automobile Club of Buffalo. With a score or more of prettily decorated automobiles, and several more score of others in line, the parade made the run from the clubrooms at Main and Edward streets down Main street to the Terrace and back again out Main street to Athletic Park, a pleasure resort.

The procession was led by a band in a big decorated automobile truck. President A. H. Knoll, of the A. C. of B., rode at the head of the division of decorated machines. The dazzling effects of flowers, lanterns, electric lights, bunting and foliage with which machines were profusely adorned was appreciated by the crowd, which broke into frequent cheers as one after another of the cars dashed by.

After reaching Athletic Park, the machines were lined up two abreast, the line extending half way around the broad granolithic walk which circles the park inside. Several thousand persons had assembled in the park to witness this first illuminated parade. When the cars had been lined up, judges who were unknown to the automobile owners commenced their work to select the best decorated car, so that the prize offered by the management of the park might be awarded. They had a difficult task, but after going over the line several times, they selected the car of Albert Poppenberg, a Rambler, carrying several ladies in white, with Mr. Poppenberg at the wheel.

Over Mr. Poppenberg's car was arranged a canopy of artificial white roses, while on the hood were a number of white pigeons, to the necks of which white ribbons extended from the front of the canopy top. As the winner was announced the crowd in the grandstand applauded heartily.

Percy Pierce's car was highly commended. A feature of the car's decoration was the Glidden Touring Trophy, recently won by Mr. Pierce. The car was decked in electric lights and bunting.

While the judges were busy looking over the cars the automobilists were out around the park taking in the many attractions, and a general good time was had.

Automobile fashions have assumed an importance that adds greatly to the responsibility resting on those who design garments.

NON-STOP TEST AND ECONOMY RUN.

Three Cars Start in Six-Day Contest on Jersey Coast Boulevard Between Seabright and Sea Girt.—Start of Four Maxwell Cars in Tire Test Delayed.

Special Correspondence.

LONG BRANCH, Aug. 21.—The Frayer-Miller car is leading to-night in the six-day non-stop economy test in which three cars started at nine minutes after midnight this morning. After twenty-one hours the Frayer-Miller had completed thirteen round trips over the twenty-mile stretch of ocean boulevard between Seabright and Sea Girt, making a total of 520 miles. The Corbin car had completed eleven round trips, and was ten miles on the twelfth, and the Wayne had made nine round trips.

The Frayer-Miller had led from the start until about 7 A. M., when in rounding a sharp, sandy turn a wheel gave way and the Corbin car, which had been running steadily, took the lead at 200 miles. The Wayne broke a cam-shaft roller shortly after the start, and lost three-quarters of an hour in making repairs. Later in the morning the Corbin had a puncture and lost first place.

The start was watched by about 100 persons. Two tents erected at the starting point protect the supplies and afford sleeping quarters for the watchers when off duty. There are checkers at each end of the course, and an official observer rides on each of the three cars in the contest.

The percentage basis on which the results are to be determined are 50 per cent. for a non-stop run, 25 per cent. for mileage, and 25 per cent. for fuel economy.

Following are the descriptions of the three competing cars:

Frayer-Miller, 16-horsepower touring car, four-cylinder engine, air cooled; weight, 1,875 pounds; fitted with Continental tires. List price, \$2,500. Entered by F. E. Moscovics. Drivers, Lee Frayer and F. E. Moscovics; mechanics, J. Howard and H. Crosby.

Corbin, 16-horsepower touring car, four-cylinder, air-cooled engine; weight, 2,000 pounds; fitted with Fisk tires on the front wheels and Dunlop antiskid tires on the rear wheels. List price, \$2,000. Drivers, L. Markel and J. A. Dower.

Wayne, 20-horsepower touring car, two-cylinder engine, water cooled; weight, 1,600 pounds; fitted with Fisk tires. Listed at \$1,250. Entered by Wayne Automobile Co.,

of New York. Drivers, A. L. Kull, D. D. Holmes and W. Rickey; mechanics, W. Mandelove and G. C. Lewis

LONG BRANCH CARNIVAL RACE.

Special Correspondence.

LONG BRANCH, Aug. 19.—The automobile carnival which was to have begun here on Friday, opened to-day with races on the Elkwood Park mile trotting track, yesterday's events having been postponed owing to the wet-condition of the track as a result of heavy rains during the week. The racing was very tame and uninteresting, there being few entries and most of the events being won in a walkover. No regular racing cars or very powerful touring machines were present. All told there were not more than 500 spectators present, although the weather was magnificent, and the track well rolled and free from dust. Considering the attendance, there was a large showing of touring cars present, thirty being packed in front of the diminutive grandstand.

The races were to start at 2.30 P. M., but as the printer did not get around with the programs, the start was postponed until 3 o'clock, and it was not until half an hour later that the programs arrived.

The conduct of the races was in experienced hands, yet it was impossible to inject much life into them. Chairman Morrell, of the racing board, acted as honorary referee; A. R. Pardington, ex-chairman of the board, as referee; Charles H. Hyde, Frank A. Burrell and Frederick Lewisohn as judges; A. B. Tucker as clerk of the course; Arthur A. Zimmerman as starter; C. R. Zacharias as announcer, and W. J. Morgan as a sort of general manager and information bureau.

The best races of the afternoon were the one-mile free-for-all, best two in three heats, for two-cylinder cars, and the four-mile handicap. Both were walkovers, however, a 20-horsepower Buick, driven by O. W. Ward, winning the former easily in two straight heats, and J. D. Maxwell capturing the handicap by a full lap with a Maxwell in 5:33, with a handicap of 1:45, easily holding his own with the Buick, which started from scratch.

The five-mile pick-up race offered some amusement, and was won by A. L. Kull in a 15-horsepower Wayne in 12:29 1-5.

The races that were scheduled for to-day will be run next Tuesday. Following are the summaries of to-day's events:

Five-mile motorcycle handicap—J. P. Bruyere, 5-horsepower Curtis (scratch), first; R. A. Bonner, 13-4-horsepower Indian, second; F. H. Van Dorne, 13-4-horsepower Indian, third. Time, 6:52.

One-mile exhibition by 40-horsepower Pipe car.—Time, 7:12.

One-mile exhibition by Frayer-Miller car.—Time, 1:34 2-5.

One-mile, best two in three heats, free-for-all for two-cylinder cars.—First heat, O. W. Ward, 20-horsepower Buick, first; W. C. Hood, 16-horsepower Rambler, second; F. W. Leland, 12-horsepower Stevens-Duryea, third. Time, 1:30.

Second heat, O. W. Ward, 20-horsepower Buick, first; F. W. Leland, 12-horsepower Stevens-Duryea, second; W. C. Hood, 15-horsepower Rambler, third. Time, 1:57 2-5.

Three-mile free-for-all.—O. W. Ward, 20-horsepower Buick, first; J. Heller, 40-horsepower Pipe, second; G. B. Demerest, 15-horsepower Locomobile, third. Time, 4:04 1-5.

Four-mile handicap.—J. D. Maxwell, 8-horsepower Maxwell (1:45), first; G. B. Demerest, 15-horsepower Locomobile (1 min.), second; J. Heller, 40-horsepower Pipe (30 sec.), third; O. W. Ward, 20-horsepower Buick (scratch), fourth. Time, 5:33.

Five-mile pick-up race.—A. L. Kull, 15-horsepower Wayne, first; Leon Cubberly, 10-horsepower Autocar, second; D. D. Holmes, 15-horsepower Wayne, third. Time, 12:12:29 1-5.

MURDER MYSTERY NOT YET CLEARED.

Special Correspondence.

CHICAGO, Aug. 21.—The automobile murder mystery of last November 19, when young William Bate, a chauffeur, was found dead in an automobile near Lemont, Ill., does not seem to be any nearer its solution, despite the fact that a man named Bennett Marsh, who answers the murderer's description in some regards, has been arrested in Brockton, Mass.

The person arrested was in Chicago before and after the murder (which was supposed to have been committed by a man who gave the name of "Mr. Dove"), and he has not been able to answer several questions which have been put to him by detectives sent to Brockton from Chicago. He is unable to tell where he was after midnight on the day of the murder, and also on other days following. The two witnesses sent from Chicago to confront the arrested man failed to identify him as the mysterious "Mr. Dove." Not only did they fail to identify the suspected man, but they also refused to say that Marsh was not the "Mr. Dove" they saw on the night of the murder. Marsh will be retained in prison for a few days longer until he has been further examined.



MIDNIGHT START OF THE SIX-DAY NON-STOP ECONOMY CONTEST AT LONG BRANCH, PHOTOGRAPHED BY FLASHLIGHT.

RACES AT READVILLE.

Labor Day Meeting Announced by Bay State Automobile Association.

Special Correspondence.

BOSTON, Aug. 19.—Nine events are announced in the entry blanks sent out to-day for the Labor Day race meeting of the Bay State Automobile Association to be held at the Readville track. These include the National Championship at five miles and two trophy races.

One of the trophy events is the third race for the Boston Herald trophy. When offered, a year ago last spring, this cup was won by H. L. Bowden. It was raced for at the Memorial Day meeting of the Bay State Association this year, and was won by Charles Gorndt with the Winton Bullet. This event is ten miles, free for all. The other trophy event is the five mile for two-cylinder gasoline stock cars for the Moxie Cup, which was won on Memorial Day by Hiram P. Maxim, with a Columbia. The entries close on Monday, August 28, with W. T. Helfer, 174 Columbus avenue, Boston.

The following is a list of the events:

Five miles for four-cylinder cars of not more than 40 horsepower, full touring condition.

Five miles for two-cylinder gasoline stock cars of not more than 24 horsepower, as per catalogue, tonneau attached. Mufflers may be detached.

Ten miles for gasoline cars of not more than 24 horsepower.

Ten miles, free-for-all, for Boston Herald trophy.

Ten miles for American stock cars, any weight, price or motive power.

Five miles, National Championship.

Five miles for gasoline cars from 551 to 851 pounds weight.

Five miles for gasoline cars from 851 to 1,432 pounds.

Five miles for gasoline cars from 1,432 to 2,204 pounds.

WAVERLY PARK MEETINGS.

New Jersey Automobile and Motor Club Planning Two Early Events.

Special Correspondence.

NEWARK, N. J., Aug. 19.—It was decided at a meeting of the board of governors of the New Jersey Automobile and Motor Club, on Thursday, to hold two race meets at Waverly Park track this season. The first race will be held the latter part of August, and the second meet is scheduled to take place about the middle of September. The exact dates will be announced later. B. M. Shanley, Jr., chairman of the race committee, will have charge of arrangements.

F. R. Pratt, former president of the club, was appointed a delegate to the convention to be held in Long Branch this week for the purpose of organizing a State automobile association.

NO MORE RACING IN BUFFALO.

Special Correspondence.

BUFFALO, N. Y., Aug. 21.—Automobile racing in Buffalo is doomed. The accident of Webb Jay at the Kenilworth race track has had a serious effect on the sport in Buffalo, and the thought of the accidents at Detroit and Cleveland have only served to make matters worse. There will be no more racing in this city. Augustus F. Knoll, president of the Buffalo Automobile

Racing Association, said to a representative of THE AUTOMOBILE, personally, that he intended to resign as soon as the affairs of this meet had been wound up.

Charles Burman, one of the well-known drivers, has announced that he will ride no more in auto races, and that the Buffalo meet was enough for him.

"It's like taking blood-money," said President Knoll, in referring to the receipts. "I am through with the racing game. These accidents of late are too much. We can't sacrifice human life for pleasure. I quit."

MEGARGEL OFF FOR PACIFIC.

Starting on the first round trip ever attempted from the Atlantic to the Pacific coasts, Percy F. Megargel, accompanied by David Fassett, left Herald square, New York City, about daybreak last Saturday morning in his *Reo Mountaineer*, the 16-horsepower Reo touring car with which he expects to complete the journey. The route west will take the tourists through Albany,



PERCY F. MEGARGEL AT THE WHEEL OF THE REO "MOUNTAINEER."

Buffalo, Cleveland and Chicago. From this point the exact route will be given later. It is expected that four months will be consumed in completing the round trip.

PROPOSED ECONOMY TEST.

A six-day's economy test for automobiles is being planned by the New York Motor Club, which proposes three return trip runs of two days' duration each out of New York City, one to Philadelphia, another to Albany and the third to Southampton, L. I., with night controls in each place alternating with similar controls in New York. In figuring the winners it is proposed to use a formula similar to that employed by the Long Island Automobile Club in its recent economy test, and in determining the cost per individual for the trips to take into consideration the size and cost of the car and the number of persons carried, as well as the fuel and lubricating oil consumed.

The strainer through which gasoline is passed should be of such fineness that water, when placed in it, will not pass through.

CINCINNATI AUTO RACES.

Large Crowd Witnesses Events Held at Hamilton County Fair.

Special Correspondence.

CINCINNATI, O., Aug. 19.—The automobile races held here yesterday on the Oakley track, in connection with the Hamilton County Fair, proved quite a success. The grandstand was well filled. It is estimated that about five thousand persons witnessed the events.

The only accident was that to J. H. Stricker in the third race. Stricker was driving an Oldsmobile skeleton, which he had altered himself. He had been handicapped fifteen seconds, but was rapidly overtaking the leader, when, as he turned into the home-stretch at the end of the third lap, the little racer headed straight for the outer fence and ploughed right through, despite Stricker's desperate efforts to get it straightened out. The car was wrecked, and

Stricker received a painful cut over the left eye, but was not badly hurt.

The summaries follow:

One mile for runabouts of 8 horsepower or less—J. H. Stricker, Oldsmobile, 1st; Victor Emerson, Autocar, 2d. Time, 1:46.

Two miles for cars of 16 horsepower or less—J. H. Stricker, Oldsmobile, 1st; Victor Emerson, American Autocar, 2d; Sid Black, Franklin, 3d; C. H. Allen, Pope-Hartford, 4th. Time, 3:31.

The third race was called off on account of accident to Stricker.

Five-mile handicap for O'Dell cup—Gunter Brothers, Royal Tourist (scratch), 1st; Schacht Mfg. Co., Schacht (25 seconds), 2d. Time, 8:04.

KISER BENEFIT MEET AT DAYTON.

Special Correspondence.

DAYTON, Ohio, Aug. 21.—The largest gathering of noted automobile drivers will occur here next Saturday, August 26, for the Earl Kiser benefit meet. The racing men who will appear are Barney Oldfield, with the *Green Dragon*; Dan Canary, *Tor-*

nado; Carl Fisher, *Comet*; Louis Chevrolet, Fiat; Herbert Lytle, Pope-Toledo; Charles Burman, Peerless; Jerry Ellis, Apperson; Charles Soules, Pope-Toledo; Dan Wurgess, *Red Bird*; E. C. Bald, Columbia; Edward Soules, Pope-Toledo; Robert Jardine, Royal.

Walter Christie and the Cape May party are to come if they can make train connections in time. Friday night there will be a grand parade, 250 cars to be in line, headed by a band in the National Cash Register Company's motor truck.

Tickets have been sent to New York, Buffalo, Cleveland, Toledo, Columbus, Cincinnati, Indianapolis, Chicago, St. Paul and Minneapolis, and the demand is for more.

Poor Webb Jay will be missed, for he was well known in Dayton, and had many friends here.

All railroads and traction lines will run excursions at one fare for the round trip.

P. T. Hussey, of Cleveland, has charge of the races. The prizes are blue ribbons to the winners of each race.

AUTO BOAT CARNIVAL.

Features of Three-Day Meet on Hudson River, New York, in September.

An outline of the special features of the auto boat carnival to be held on the Hudson River, New York, September 14, 15 and 16, has been announced by Secretary H. S. Gambel of the National Association of Engine and Boat Manufacturers.

On Thursday, September 14, there will be races for cruisers and open launches, followed by speed boat races in the afternoon. On Friday a race will be run from New York to Poughkeepsie and return—a distance of about 145 miles—for which a special trophy will be given, and races for all classes will be run on Saturday.

A principal feature of the carnival will be the race for the International Trophy, the first ever offered for power boat races in this country. This trophy, as will be noted in the accompanying illustration, is vase-like in form and narrows to a neck at the base, where it is supported by four carved sea horses. Cables are twined about the handles and a propeller wheel is suspended within each handle, while on the front of the trophy in bold relief is a motor boat being driven at speed through the water. The cup is of silver, and the whole stands on an ebony base, set with silver tablets on which it is intended the names of the winners from year to year shall be inscribed. The trophy complete stands a little more than 24 inches in height and measures 17-1/2 inches from tip to tip across handles.

Other trophies of note will be competed for during the carnival, including the National and the Inter-state trophies.

All events will be started at a point in the river opposite Ninety-seventh street, New York, with the exception of the international race, which will be run over a triangular course of 6-1/2 miles.

IS TRACK RACING DOOMED?

Manufacturers and Clubmen Opposed to Track Contests as Now Conducted.

Special Correspondence.

CLEVELAND, Aug. 21.—With the general public the sentiment is expressed that automobile track racing must go, and it is very probable that legislation will be enacted not only by city authorities but by the State as well, prohibiting all forms of racing on circular tracks. But despite the series of

accidents at Detroit, Cleveland and Buffalo, the race promoters and some of the manufacturers are unwilling to give up track racing entirely, believing that with certain modifications of rules it can be made reasonably safe.

E. Shriver Reese, president of the Cleveland Automobile Club, and a prominent manufacturer, says that he would not favor abandoning track racing. He thinks that if tracks were properly banked, the fences removed, and the tracks sprinkled so as to eliminate the dust, racing would be reasonably safe, but he does not favor any more races with special cars on present tracks. He thought that there might still be interest enough to warrant building special tracks in two or three centrally located cities.

L. H. Kittredge, general manager of the Peerless Motor Car Co., said he was not an enthusiast on any form of racing. He thought there was equally as much danger in straight-away races as in track races, and that if such races as the Vanderbilt or Gordon Bennett were repeated as fre-



International Challenge Trophy for World's Motor Boat Championship, Offered by National Association of Engine and Boat Manufacturers.

quently as track races there would be many more serious accidents than there are at present. Still, he would not say that the Peerless Company would discontinue the building of racing cars. He thought that if people continued to demand such racing cars they would be built. He is of the opinion that track racing with special cars will be apt to die out of itself, because even the best drivers are beginning to refuse to take chances.

Walter White, of the White Sewing Machine Co., is of the opinion that there is less danger in handling racers on a straight-away course than on circular tracks. "If auto racing is to be continued on circular tracks it will be necessary for the tracks to be banked as they were for bicycles. The sport is a good advertisement for a car, but it fails to show the durability or endurance of a machine. They go at a high speed for a short distance, and that is all there is to it. I think if races are to be held, the Vanderbilt style of straightaway contests is the ideal one. If all tracks could be treated with oil and banked, there would be little chance for accident."

In an interview with Windsor White, of the White Sewing Machine Co., he stated unequivocally that his company was through with track racing with special-built cars. He would not say that the company would decline to enter any more road races, as the question of policy on this point had not been discussed. He thought it only a question of a short time before road racing would be abandoned entirely. The entry of the White Company for the Vanderbilt Cup race still stands, and Mr. White would not say that it would be withdrawn. Mr. White left Webb Jay's bedside late Sunday night, and stated that while the driver was still in a critical condition the physicians gave every encouragement that he would recover.

Councilmen A. H. Stanton and E. B. Haserodt have both announced that they will introduce ordinances prohibiting automobile racing on circular tracks in this city, while State Representatives B. J. Sawyer and E. Eubanks are slated to father bills prohibiting track racing in the State of Ohio. Mr. Sawyer will investigate the question of whether such a bill can legally be passed. The question hinges on whether or not a man can be prevented by law from putting his life in jeopardy in such races, and if he succeeds in solving the problem he will introduce the bill.

AIRSHIP IN NEW YORK.

Thousands Witness Successful Attempt to Navigate Air of Metropolis.

The first opportunity ever afforded New Yorkers to witness an airship in actual flight was given last Sunday afternoon when A. Roy Knabenshue, of Toledo, O., in his bullet-shaped vessel left his storage station at Sixty-second street and Central Park West, New York, and sailed down to Forty-second street and returned without serious mishap, alighting just within the bounds of Central Park at Columbus Circle.

Knabenshue's ship is 62 feet in length, 16 feet in diameter, and is composed of a huge gas bag made of silk, underneath which is suspended—secured by a network of twine or rope—a light spruce framework for the support of its operator and control mechanism. A propeller is placed at the front, contrary to the usual custom, and at the rear a large rudder is attached. The motive power is supplied by a 10-horsepower air-cooled gasoline motor. The vessel complete weighs but 200 pounds.

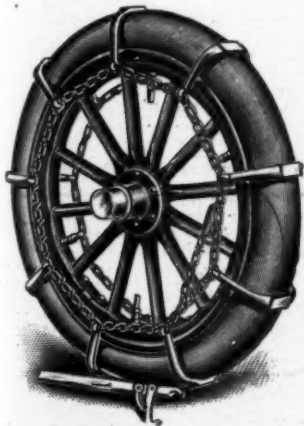
In the exhibition on Sunday the ship was driven down Broadway, circled about the Times Building at Broadway and Forty-second street, and executed a number of maneuvers at an altitude of about 1,500 feet. Knabenshue then headed his vessel for his storage station, and when within a short distance of his announced point of landing the chain connecting his propeller shaft was thrown off, and he was forced to take his chances with the air currents without the aid of his engine. Fortunately, however, he succeeded in alighting in Central Park just opposite his starting point, the latter being just across the street. In making the landing the ship came in contact with a tree, breaking a propeller blade, the only serious mishap experienced during the exhibition.

Entry blanks have been issued for an automobile race meet to be held at Paterson, N. J., on Saturday, September 9, under the auspices of the North Jersey Automobile Club. Seven events have been arranged, which provide for all classes of cars. Entries close September 4 with Robert Beat- tie, Jr., Secretary, Little Falls, N. J.

INFORMATION FOR BUYERS.

THE LAWTANK.—A convenient outfit for the storage of gasoline has been brought out by the Tokheim Mfg. Co., of Cedar Rapids, Iowa, under the name of the "Lawn-tank." As the name indicates, the outfit is intended to be "planted" in the lawn or some other convenient spot in the grounds, away from buildings. It consists of a tank of heavy galvanized steel, painted with rust-proof paint. The longitudinal seams are double-riveted, and all joints are well soldered. The tank is buried in the ground, and from it a brass pipe two inches in diameter rises to the surface. The pump plunger works in this pipe; the valves are of brass and are of heavy construction. The brass pipe ends in a strong galvanized iron box, the top of which is level with the ground and is fitted with a cover; this box acts as a receptacle for the handle of the pump when not in use, and also as a terminal for the vent and filling pipe, which is a separate tube rising from the tank. When it is desired to fill the automobile tank, the cover on the iron box is raised, a hose connected to a nipple in the box, and the pump handle worked up and down; the pump is said to be capable of delivering five gallons a minute without difficulty. When the tank is full, the pump handle is pushed down as far as it will go, when the valves are automatically tripped and all the gasoline remaining in the hose and the tube is allowed to drain back into the underground tank. The cover of the box is secured by a lock, and so is secure from meddlers. The outfit is made in sizes to contain one, two or three barrels of gasoline.

BURKE CLIMBER.—A new anti-skidding device that is easy to attach and detach and is so made as to cause no injury to the tires is manufactured by the J. C. Brown Mfg. Co., of Butler, Ind. The general appearance of the device is shown by the accompanying illustration. A series of

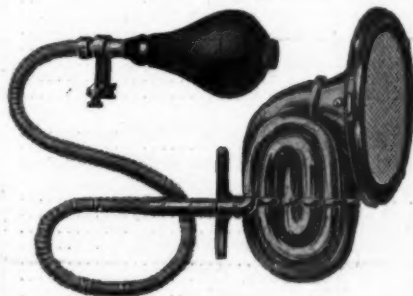


BURKE CLIMBER ATTACHED TO WHEEL.

U-shaped steel stirrups or clips are formed to fit the tire shoe loosely and are held in place by chains on either side. The ends of the stirrups hold the chains away from the rim and spokes, so that they will not mar the paint and varnish. The stirrups are made wide enough to allow the tire to expand sidewise when weight is brought to bear on the stirrup, thus causing the wheel to ride smoothly over hard roads or pavement. Each clip or stirrup is made half round so that it will not cut into and damage the tread of the tire. The device is attached by laying the climbers upon the ground and running the wheels upon them, then bringing the ends of the side chains

together and drawing them tight with the special tool furnished with the set of climbers, which is shown on the ground beneath the wheel in the engraving. It is not necessary to deflate the tires, as they can be drawn to any desired tension by means of the tool. The stirrups gradually creep around the tires when the car is in motion, so that there is no constant chafing and wearing in spots. The climbers are made in sizes for 3, 3 1-2, 4 and 4 1-2 inch tires of 28, 30, 32 and 34 inches diameter.

BLANCHARD HORN.—The new French horn, with three convolutions, shown herewith, has been imported by the Motor Car Equipment Co., 55 Warren street, New



THE BLANCHARD HORN.

York City, and is being offered in the American market. The horn is known as the Blanchard, is made in large sizes and has a fine, deep resonant tone imparted by the extra convolution and the superior quality of the reed.

CYLINDER GRINDER.—So much depends upon the accuracy and smoothness of the finish imparted to the interior of explosion engine cylinders that manufacturers are, naturally, taking great pains to have this part of the work done as perfectly as possible. When properly done by correctly designed machinery, grinding is the best method of finishing cylinders and other parts requiring great accuracy. In this connection the new cylinder grinder recently brought out by the Heald Machine Co., of Worcester, Mass., is of interest, as it was designed especially for the work. The grinding spindle is horizontal and has two motions. First, it revolves at high speed on its own axis, carrying the grinding wheel around; then it revolves more slowly about an axis that is eccentric to its own axis, this motion being adjusted so as to cause the periphery of the grinding wheel to describe a circle equal to the desired diameter of the cylinder. The cylinder to be ground is bolted to a table or bed which slides back and forth, parallel to the axis of the grinding spindle, thus enabling the grinding wheel to reach all parts of the bore. A suitable power feed is fitted to the table, and will reverse automatically at any desired point. Eight changes of speed for the shaft are provided, so that cylinders of different sizes can be handled at the most advantageous speeds. A cross motion of the table makes it a simple matter to grind two cylinders in such a way that they will be truly parallel. Provision has been made for grinding either dry or wet, centrifugal pumps carrying water for the latter method, and channels in the bed carrying it away. The manufacturers suggest that a system of grinding cylinders while hot might produce work that would be more perfect than when cold ground, as the condition of the casting with regard to expansion would be more nearly like working conditions than when cold. The same

concern also manufactures, and issues special catalogues for, a variety of grinding machines and attachments for finishing all kinds of work—grinding drills, reamers, milling cutters, centers, and so on. Many are driven by individual electric motors.

FORGINGS AND TOOLS.—A very sensible kind of catalogue from the point of view of the engineer and practical man has recently been issued by the Billings & Spencer Co., of Hartford, Conn. It contains detailed descriptions and good illustrations of automobile drop forgings, and also of a number of handy tools. The forgings consist of steering knuckles and connections, of both Elliott and Lemoine patterns, connecting pieces for same, cranks, rod ends, yokes and levers. Many of these may be had finished, ready for use. Wrenches, pliers and screw drivers of various kinds are also listed.

"IDEAL" CARBURETER.—A floatless automatic carbureter called the "Ideal" is being offered by Bowman & Morrison, 230 Washington street, Boston, Mass., for automobile, marine and stationary engines. Gasoline is admitted at the left and is checked by a needle valve normally held closed by a cam at its right end from which depends a plate valve closing the air intake. A coil spring around the needle shank opens the needle



"IDEAL" CARBURETER.

valve when the cam valve is partially opened by intruding air. The incoming air passes through perforations in the chamber around the needle valve and takes up the gasoline as it is admitted. The mixture rushes against the cone above and is spread in all directions to enter the helical passages that form the mixing chamber. At the top of the dome the contents of the inner and outer passages commingle, and it is claimed that a gas is produced that is uniform in quality and free from non-evaporated or "raw" gasoline. Provision for making an extra rich mixture for starting the engine is made at the lowest part of the carbureter, where there is a hollow piece for receiving gasoline, a gasoline level regulator and a baffle plate. When starting, the carbureter is primed by an outward pull on the part forming the fuel inlet duct, and the oil flows down and collects beneath the baffle plate. When the engine is turned over, part of the air admitted passes under the baffle plate and takes up the gasoline there, which is carried through the mixing chamber in the usual way.

NEW TRADE PUBLICATIONS.

Central Body Co., Connerville, Ind.—Circular illustrating different styles of bodies for automobiles.

Cortland Specialty Co., Cortland, N. Y.—Circulars relating to compounds for brazing and welding, and for preventing boiler scale.

Goulds Mfg. Co., Seneca Falls, N. Y.—Catalogue of hand and power air compressors and vacuum pumps.

Logan Construction Co., Chillicothe, O.—Circular illustrating various types of Logan cars; also separate engine and transmission gear.

Ora D. Shaw, 109 Kingston street, Boston, Mass.—Circular illustrating automobile caps of silk, cloth, leather and other suitable materials.

Rajah Auto Supply Co., 140 Washington street, New York.—Circular describing Rajah porcelain insulated spark plugs and Rajah terminal clips for attaching wires.

Wheeler Mfg. Co., 16 Baltimore avenue West, Detroit, Mich.—Large folder with illustrations, descriptions and prices of canopy tops for a number of standard cars.

National Cycle Mfg. Co., Bay City, Mich.—An interesting and well made little pamphlet illustrating a number of parts of gasoline motors, made from designs furnished by manufacturers.

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